PETROLEUM WEEK

FEBRUARY 24, 1956

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Ike's veto opens era of confusion 9, 56

Industry earnings continue upward 12

Canadian crude moves into Michigan 13

Wanted: 40-billion bbl. of crude oil 16

New strike sparks big Alberta play 18

Oil search in France gets new impetus 30

An expert's tips on hunting oil abroad 36

How to plan for disaster 38

New England gets 30,000 b/d refinery 40

Humble invades New Mexico market 44

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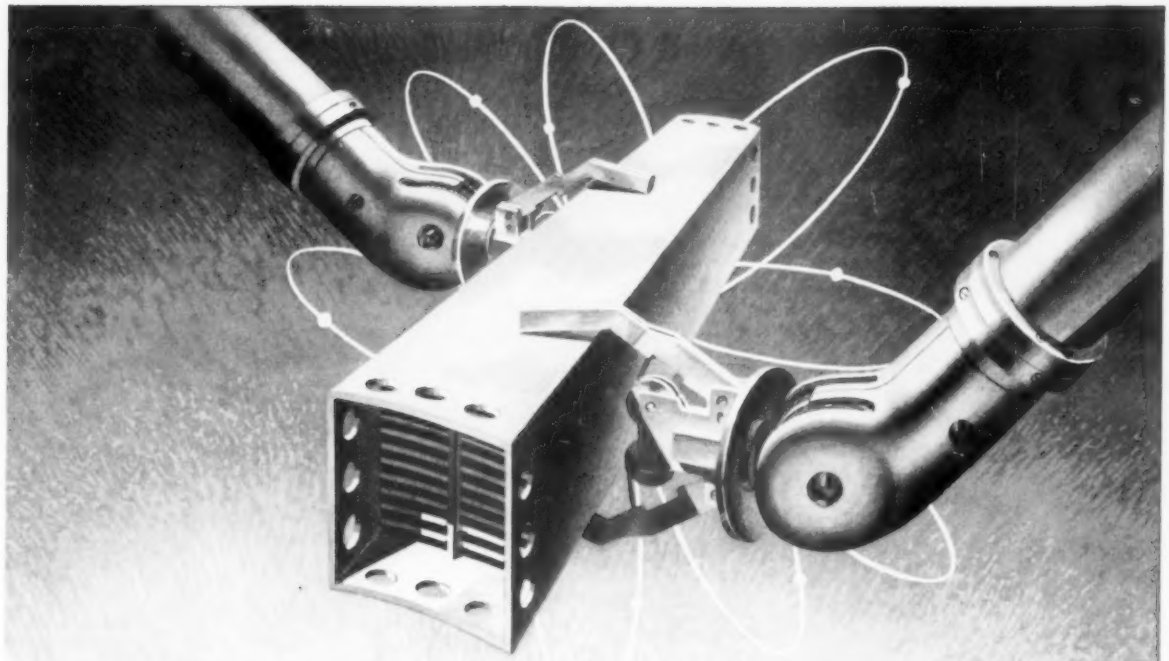

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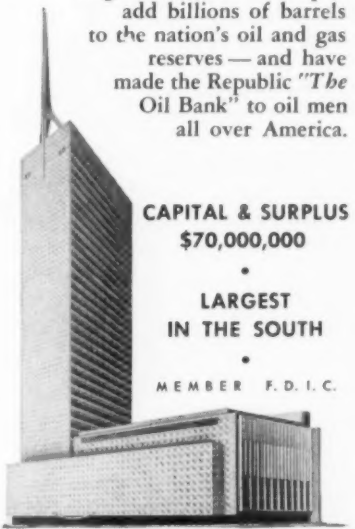

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60-Second Summary

WHAT'S HAPPENING IN OIL

February 24, 1956

dept/INDEX

Production	18
Refining	40
Transportation	46
Marketing	44
Washington	6
Key Prices	49
The Market Trend	51
Statistics	52
Editorial	56
International	30
Management	38
Oil Men at Work	36
Personals	53
Petroleum Comments	16

President Eisenhower's veto of the natural gas bill has the industry in an uproar. Many plans for drilling programs and for sales to interstate pipelines—set in motion when the Senate approved the bill—are now being delayed while FPC and the courts wrestle with knotty problems of control. . . . p. 9

•

Sun Oil Co.'s new experiment with selling five grades of gasoline from the same station pump, if successful, will cause an upheaval in oil marketing. In Orlando, Fla., this week, Sun starts testing how eager the motorist is to buy gasoline "custom-blended" for his car. . . . p. 11

•

Alberta's latest oil strike, 220 mi. northwest of Edmonton, has set off a lease scramble. Drilling is being rushed to determine the size of the find. . . . p. 18

•

Two firms are trying new approaches to solve a long-standing tanker problem: the empty trip home. Pan Atlantic will carry dry-cargo trailers strapped to the back of modified T2 tankers. Universe Tankships plans ships that will carry either oil or iron ore. . . . p. 46

•

Canadian crude has gained a new U. S. outlet—central Michigan. Two refineries there started running the crude this week, and a third will do so by mid-March. Reason: The Interprovincial-Lakehead pipeline is close by. . . . p. 13

•

Rhode Island is getting its first light-products refinery. Commerce Oil Refining Co., its builder, apparently will have no supply or outlet problems because it has contracts with two New England marketers who will furnish Middle East crude and who will, in turn, buy the products. . . . p. 40

•

Louisiana has asked the Supreme Court to try the tidelands boundary oil suit in a federal court in Louisiana, instead of in Washington. The state says the cost of transporting evidence to Washington is "prohibitive."

•

French oil development is taking on a new momentum and a new look, created in part by firms seeking to gain attractive concessions being surrendered in southwestern France by an affiliate of Jersey Standard. This is the location of Western Europe's largest oil field to date. . . . p. 30

•

1956 will be another big year for oil if the factors which made 1955 so successful continue. Yearend reports, now being released, indicate these reasons for 1955 gains: higher demand, more efficiency, higher prices. . . . p. 12

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau

February 24, 1956

The oil industry faces a crucial period in Washington. The storm center around the issue of oil executives' political contributions seems sure, at the least, to guarantee a loss of oil industry standing. At the worst, critics of the industry may make headway in their attempts to impose more restraints on the industry.

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A big investigation of oil-in-politics is inevitable, despite the reluctance of both Republican and Democratic leadership to expose sources of campaign funds. But a handful of Democratic senators have been pushed into the limelight by the Case episode—and they see a chance to make political capital for themselves and their party. They recall the big investigations of the past—into the railroads, the electric utilities, the stock market, and the steel industry for example.

Sen. Albert Gore will spearhead a tough—though bipartisan—investigation. Oil men will be put on the stand first. But the Gore group also will look into contributions from labor, private power, and other interests. Gore is bound to dig into the sources of the big contributions to the political campaigns of 1952 and 1954.

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There may well be legislation to regulate further the freedom to contribute to campaign funds. Long-term, the critics have their eye on federal control over conservation of oil and gas.

State conservation laws are an obvious target. Industry critics have always contended these conservation rules are actually price-fixing mechanisms.

FPC regulation of gas producers may be the opening wedge. If producers succeed in developing substantial new intrastate markets for gas that would otherwise go into regulated interstate sales, government lawyers may well move for U.S. control of intrastate sales, too. There are court decisions indicating that an intrastate activity may be subject to regulation when it has a substantial effect on a regulated interstate activity.

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Gas legislation is dead for this year—and probably for a long time. Eisenhower's veto makes it highly doubtful that a measure acceptable to the industry can ever pass Congress again. A new bill to ease the burden of federal regulation of producers may be introduced. But even the strongest White House backing won't get the job done now. Democratic and Republican leaders won't stick their political necks out again. And there's a lot of feeling in the industry that there's no point in resuming the fight now.

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Eisenhower's whole program will suffer as a result of the veto. In order to recover their damaged prestige within their own party, Democratic leaders will challenge the President wherever they can. The GOP chiefs tried to convince Eisenhower that a veto would hurt Republicans who voted for the gas bill with the understanding it had presidential backing. They were outtalked by White House insiders, who argued that a veto would take the sting out of Democratic charges of GOP friendliness to big business. The decision was Eisenhower's alone.

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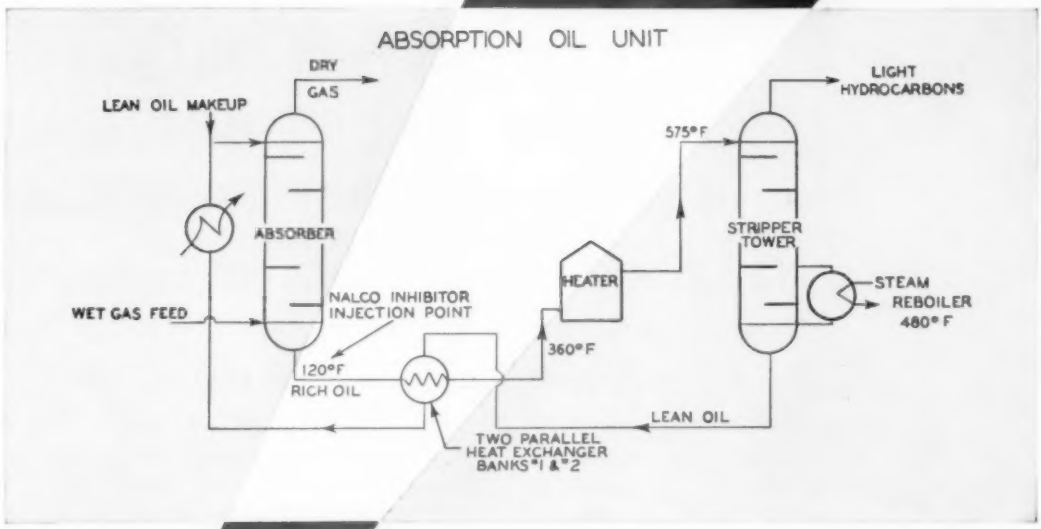

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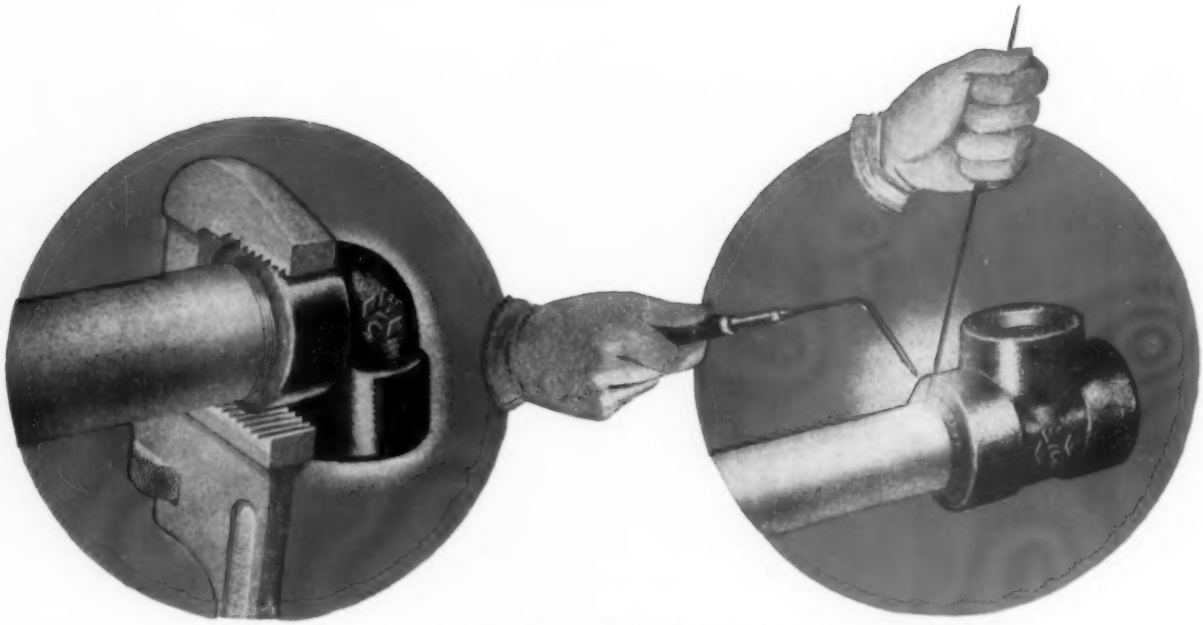

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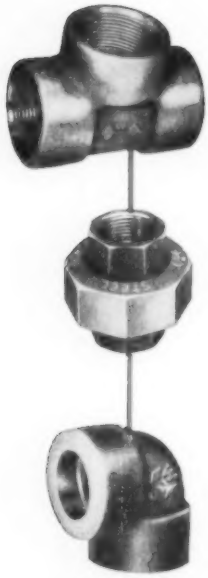

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Ike's Veto Opens Pandora's Box

THE IMMEDIATE IMPACT

- There will be confusion and uncertainty while FPC—and courts—map price formulas and regulation procedures.
- Gas exploration and drilling will slow down until the controls picture clears up. This may take several years.
- Many uncommitted reserves will be kept off interstate markets, at least temporarily. And there will be an increasing scramble for more intrastate outlets.

THE LONG-RANGE OUTLOOK

- There will always be political pressure to keep prices down, even if this eventually causes supplies to dwindle.
- Interstate pipelines, finding gas supplies harder and harder to get, may turn more to Canada and Mexico.
- Intrastate sales may fall under federal control if they appear to be draining away supplies from interstate pipelines. And the threat of oil regulation is a real one, too.

President Eisenhower's bombshell veto of the natural gas bill puts producers smack up against direct federal control.

The Federal Power Commission, which had been openly hopeful that Congress would ease the responsibility of regulating producers, has gone slow in implementing the Supreme Court's 1954 decision. Now FPC has no recourse but to face up to its unwanted task.

I. Problems of Regulation

It is a monumental job. First, the commission must meet the sheer physical chore of regulating thousands of independent producers. Many hundreds of producer applications for licenses as natural gas companies must be processed. And more than 180 producer applications for rate increases now before FPC must go through the lengthy hearing procedure. But the biggest problem the commission must solve is this:

Just how do you regulate a gas producer whose business has none of the characteristics of a normal public utility? And what will this do to the price and supply of gas in the field?

In the 20 months since the Phillips case decision, not a single producer rate has received final action. FPC has not settled on a formula for fixing the price of gas in the field. (In the Signal Oil case, the commission granted the producer a certificate on condition he charge a prescribed rate. But even in this case, which is being appealed, the FPC didn't lay a legal basis for the recommended rate.)

Industry lawyers fear there is only one ultimate outcome: regulation based on the cost of production.

Producers argue that this approach simply won't work. They say the cost of production varies from field to field, from company to company, from well to well. The cost of gas coming out of the same hole actually varies—since the well may be producing from two or three sands at once, and consequently each of these must be expensed differently.

"It's going to be an accounting nightmare," says one gas expert. "In order to avoid becoming hopelessly bogged down, FPC is going to have to be rather arbitrary. That will open the door to lawsuits by producers, who will claim that slipshod regulation has resulted in confiscation of their property."

And beyond this, no one can put an accurate tag on the cost of gas production unless he knows what the life of the well will be. When the life expectancy proves wrong—and it usually does to some extent—the legal

problems of refunds or credits must be worked out.

The burden of keeping precise cost records—and of defending them before FPC—will be serious, particularly for small producers.

The Harris-Fulbright bill would have removed independent producers from direct federal control. This would have eliminated much long, tedious, and expensive paper work. And it would have entitled interstate pipeline companies to a reasonable market price for gas produced in their own fields. But now the producer is faced with endless red tape, and the pipeline company is uncertain about the status of its own reserves.

There are signs that a majority of the FPC commissioners will try to find a way to allow producers rates based on commodity value, rather than on cost alone.

A favorable court decision in the Panhandle Eastern case would be at least a temporary help here. In that case, FPC ruled that Panhandle Eastern—when expensing its own gas production in its rate base—was entitled to the weighted average price of gas sold by independents in the same or nearby fields.

However, a federal court of appeals remanded this decision to FPC. It said FPC had failed to give due weight to the cost of production. The case will be carried to the Supreme Court. If the lower court is upheld, the utility rate-base method is seen as the only alternative.

Supreme Court approval of the fair-field-price formula, on the other hand, would open the door for FPC to try something similar in setting producer rates. However, Washington gas lawyers hold only faint hope of a permanent victory over the advocates of regulation pegged to cost.

There is no doubt that many FPC staff members are sold on utility-type regulation. This would give the producer a price covering the actual cost of producing the gas, plus a profit of, say, 6%. Just how dry-hole drilling would be figured in hasn't been made plain yet.

Congressional champions of tight regulation are obviously ready, too, to criticize the commission for any departure from the accepted utility standard. Gas men point out, also, that the political texture of FPC is subject to frequent change—and that future changes probably will be for the worse from the producer's viewpoint.

Whatever course FPC takes, the field price of gas isn't likely to go up much in the near future. For one thing, the mechanics of getting any increases through FPC will be long and drawn out. And there will be political pressure on FPC to hold rates down no matter what the effect on supply.

Furthermore, the potential availability of Mexican and Canadian gas will act as a competitive ceiling on gas prices.

In the long run, industry leaders agree, government controls will create a gradual decline in supply, and that, in turn, will generate pressure for higher prices.

II. Decisions Ahead

The rate-setting formula is only one of several problems facing FPC that must be settled before the precise application of the Phillips decision is spelled out.

Producers already have challenged FPC's jurisdiction in several cases now before federal courts of appeal.

- One of the most important is the Deep South case. FPC ruled in this one that regulation begins at the wellhead before the production and gathering of natural gas is completed. Even if only a fraction of the gas produced enters interstate commerce, according to the ruling, the entire production is subject to federal price control. The producers claim their sales at or near the wellhead are not in interstate commerce and are thereby exempt from regulation.
- The La Gloria operators case, also headed for an appeals court, may settle the producer's right of abandonment, and may have a bearing on the budding conflict between federal regulators and state conservation bodies.

The operators, including Ohio Oil Co., had an escape clause in their sales contract with the Texas Illinois Natural Gas Pipe Line Co., which provided for abandonment of service in event of federal regulation. The clause was exercised in the wake of the Phillips decision.

The producer's right of abandonment was challenged both by the pipeline and by FPC. Since many contracts contained similar clauses, the court's decision will have broad impact.

The La Gloria operators case is further complicated by a Texas Railroad Commission order which prohibited delivery of gas from the field until it was cycled and all liquids removed. The operators, unable to obey the commission order and still deliver the promised quantities of gas to Texas Illinois, were caught in the middle of a conflict between federal and state authority.

Industry spokesmen fear that a court decision holding that FPC authority is paramount will pose a serious threat to the future effectiveness of state conservation laws, and mark the first step toward federal control of the oil industry.

"When the courts say FPC can regulate gas production regardless of the effect on production of oil," says one industry source, "then it will be obvious that the federal government has moved in on the oil business."

III. Possible Trends

It is only natural that producers will seek a way out from under regulation.

- **One obvious course is to help develop intrastate markets.** Even this move, however, may face obstacles. If growing intrastate markets do divert important quantities of gas from interstate sales, the trend may eventually result in federal control over intrastate sales, too, on the ground that interstate shipments are affected.
- **Some producers may sell their gas reserves in place** to an interstate pipeline company, or even a distributor. This, they feel, would remove them from direct federal control.
- **Integrated pipeline companies may step up their own production,** or hire the original producer to handle operations under a service contract.
- **Some gas men believe a new type of business—a regulated "middle man"—will spring up.** Such a company would buy gas in place, produce it, and sell it to the pipeline companies.

The general attitude of the industry this week appeared to be this: The President's unexpected veto was a damaging blow, but only time will tell the extent of that damage.

The first, most immediate result was a shelving—for the time being, at least—of numerous contracts that were being drafted after the Senate approved the legislation.

Ralph E. Davis, of Houston, widely regarded as one of the nation's outstanding authorities on natural gas matters, said he knew of contracts covering 2-trillion cu. ft. of gas that were being drafted before the President's veto.

Davis estimated that, had the gas bill been signed into law, as much as 10-trillion cu. ft. of new gas would have been made available to interstate markets within a year's time.

Davis pointed out that the biggest part of the nation's gas reserves not under contract is in the Gulf Coast area, particularly in southern Louisiana and South Texas. Gulf Coast proven reserves were estimated at about 87-trillion cu. ft. at the end of 1954,

with about 20-trillion not yet under contract.

He indicated that at least two major pipeline companies had had plans actively under way—before the veto—to make studies of reserves in offshore fields, looking to the possibility of making pipeline connections to those areas if the climate for contracting appeared to be favorable.

For the most part, however, Davis emphasized that the impact of the President's veto would not be widely felt immediately.

"This industry is now so big," he said, "that nothing is going to happen overnight that will be apparent in the next day's operations. The real effect will become apparent only after the passage of considerable time."

His long-range view is similar to that of many other industry leaders: Much more gas will flow north if the producers get what they consider is a reasonable price than will flow north if they can't get a fair price. If federal regulation puts on too tight a lid, consumers will eventually be hurt.

It is generally agreed that gas producers aren't going to get out of the business, but that they're likely to spend less money for gas exploration. So-called distress gas—gas encountered in the course of oil exploration, which must be marketed to avoid wastage—probably will be sold in the future as it has in the past.

For the most part, it will be the larger producers, with widespread reserves, who will be inclined to hold some of their supply for a more favorable market period.

Transmission companies may have to restrict their expansion plans because of difficulty in buying sufficient gas under present conditions. Their only alternative, it appears, is to put fresh emphasis on their own production efforts. Here again, though, they face the uncertainty of the outcome of the court case to determine whether they are entitled to a fair field price on gas they produce themselves.

Producers in states where the intrastate demand for gas is greater than the state's supply of gas may feel little effect from the death of the gas bill. The reason: Since they have markets available within their own states, they will not need to sell to interstate pipelines, and therefore will not come under federal jurisdiction. In California, for example, consumption runs well ahead of production.

Eventually, of course, there may be new legislation, aimed again at freeing the producer from direct federal control. Until then, there seems to be little the industry can do but sweat it out through FPC and the courts.

One Pump: Five Grades of 'Gas'

Sun Oil Co. may have hit on a revolutionary new way to sell gasoline. The company will try blending different grades at the service station—allowing the motorist to take his pick of quality and price.

Tests were started this week at 17 Sun stations in the Orlando (Fla.) area. If they catch on with the public, the whole face of gasoline marketing may be changed.

New pumps installed at the Orlando stations can be set to any one of five grades of gasoline. Regular-price Blue Sunoco is the first of the five. The highest rates more than 100 octane. Prices will scale up from the going price of competitors' regular-grade gasoline. Sun is suggesting to dealers an increase of 1¢ per grade.

Sun's move is based on the wide spread in octane requirements of different cars. Says Frank R. Markley, Sun's marketing vice-president, "Even among the 1956 automobiles there is a spread of at least 10 octane numbers between the needs of the lowest- and highest-compression engines. There is the need to meet the higher requirements of future automobiles—but at the same time relieve the owner of an older car from the need to pay for more quality than his engine requires."

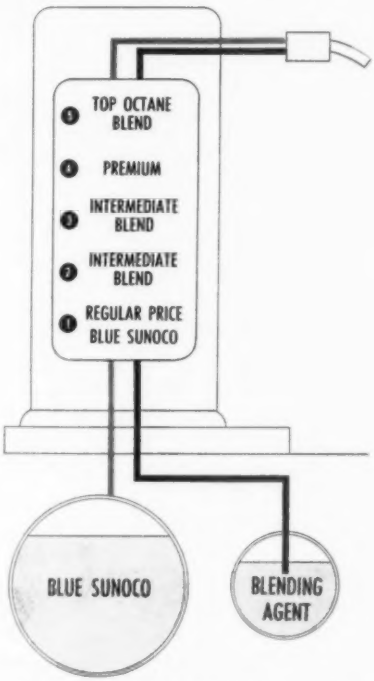
The new pump was built by Wayne Pump Co. to Sun's "patent-pending specifications," which means that Sun has exclusive rights. The test could conceivably lead to widespread replacement of present station pumps in the industry at a cost of many millions of dollars.

Refiners could be affected, too, if other companies follow Sun's lead, since part of the gasoline blending process would be removed to the station level.

Sun's action also shows that the advent of the gas turbine car (burning a low-grade gasoline, or a distillate) is still too far in the future to be a factor in current marketing thinking.

Sun's pump draws both gasoline and a special "octane concentrate" from underground tanks (illustration). The two products flow through separate hoses, one inside the other, to the nozzle. There they are blended before entering the car tank.

At Orlando, the pumps are painted yellow, to contrast with the regular blue pumps. They have panels that allow the motorist to see the setting for the gasoline grade he chooses. The five grades are called Blue Sunoco 200, 210, 220, 230, and 250. Through separate visigauges, the motorist can also see the gasoline and concentrate moving to the hose.



SCHEMATIC DRAWING shows how Sun's new service station pump will work. By varying the mixture of gasoline and blending agent, the pump can deliver five different grades, ranging from regular-price Blue Sunoco to a 100-octane-plus fuel. This is Petroleum's Week's conception of how the pump will work.

By turning a dial, the dealer locks in the proper proportion of gasoline and concentrate. At the same time, he sets the proper price for the grade chosen. The price is then automatically computed, as on present pumps.

Sun describes the octane concentrate as "a mixture of a small number of specially selected hydrocarbons, blended with stocks from a Sun-developed process, and combined with tetraethyl lead." The concentrate was developed at Sun refineries.

"This is strictly an experiment," says Markley. "We have always taken the attitude that the real test of our gasoline is its use in the customer's car. And the Orlando experiment will allow us to study every aspect of this innovation. Consumer reaction is the all-important finding to be developed."

How Oil Industry Fared Financially in 1955

(Figures in thousands of dollars)

	Gross Income			Net Income		
	1955	1954	% change	1955	1954	% change
Anderson-Prichard	$ 61,300	$ 54,865	+11.7%	$ 4,934	$ 3,254	+51.6%
Atlantic	513,035	489,747	+ 4.8	39,464	41,351	— 4.6
Columbia Gas	304,376	260,365	+16.9	23,688	19,550	+21.1
Continental	.....	.....	.....	46,300	41,683	+11.1
Cosden (d)	.....	.....	.....	3,500	2,570	+36.2
Gulf (a)	1,524,300	1,379,734	+10.5	166,800	143,088	+16.6
Hancock (b)	.....	.....	.....	3,331	3,132	+ 6.4
Humble	.....	.....	.....	175,000	146,303	+19.6
Imperial	.....	.....	.....	62,100	49,383	+25.8
International	.....	.....	.....	35,000	25,500	+37.3
Interprovincial Pipe Line	.....	.....	.....	7,031	6,051	+16.2
Lone Star Gas	.....	.....	.....	12,683	10,875	+16.6
Ohio	.....	.....	.....	41,255	38,224	+ 7.9
Panhandle Eastern	98,798	87,161	+13.4	17,397	14,892	+16.8
Phillips	900,000	796,000	+13.1	95,000	76,000	+25.0
Plymouth	.....	.....	.....	6,888	6,759	+ 1.9
Republic Natural Gas	.....	.....	.....	4,070	4,785	—14.9
Shamrock	43,181	38,175	+13.1	7,756	7,408	+ 4.7
Shell	.....	.....	.....	125,500	120,127	+ 4.5
Signal	58,913	53,918	+ 9.3	9,640	9,313	+ 3.5
Sinclair	.....	.....	.....	80,000	74,623	+ 7.2
Socony Mobil	.....	.....	.....	200,000	183,806	+ 8.8
S. O. (N. J.)	.....	.....	.....	717,000	584,793	+22.6
S. O. (Ohio)	367,007	321,920	+14.0	23,008	18,527	+24.2
Sun	663,748	661,377	+ 0.4	48,307	40,344	+19.7
Sunray Mid-Continent (c)	.....	.....	.....	39,400	36,600	+ 7.7
Texas Eastern	163,265	150,077	+ 8.8	16,794	12,986	+29.3
Texas Gas Trans.	.....	.....	.....	6,722	5,031	+33.6
Texas-Gulf Producing	16,077	13,327	+20.6	6,320	5,246	+20.5
Union	365,000	352,000	+ 3.7	.....	.....	.....
Warren (a)	62,285	56,521	+10.2	5,484	5,204	+ 5.4

(a) 10 mos. ended Oct. 31 (b) 6 mos. ended Dec. 31 (c) 1954 adjusted to reflect merger (d) 9 mos. ended Jan. 31

Why 1955 Was a Record Year for Oil

Early financial reports confirm that 1955 was a record year for sales and earnings in the petroleum industry. What's more, the factors that sparked the 1955 surge are still operating. So, if all goes well, 1956 could be an even bigger year.

The yearend reports that are in so far (still preliminary, in most cases) show higher sales chalked up in every case. Though returns are still sketchy, the 1955 pattern of top sales and high earnings appears to be set.

In general, profits jumped more, percentagewise, than sales, though there were some outstanding exceptions. Atlantic Oil & Refining Co., for instance showed an increase in sales of 4.8%, from $489,747,000 to $513,035,000. Yet profits dropped from $41,351,000 to $39,464,000, for a 4.6% loss.

Higher demand, more efficiency, and higher prices were the basic factors underlying the 1955 figures. All of these are expected to give oil another big year in 1956.

Total demand in 1955 averaged 8,755,000 b/d, an increase of 8% over 1954. Demand this year is expected to go up another 4% (PW—Jan.6'56,p9). Average demand for the first week of 1956 was 10,236,000 b/d, nearly a million b/d higher than the corresponding week in 1955 (PW—Jan.13'56,p40).

According to figures released last week by the Bureau of Labor Statistics, the over-all price index for crude and petroleum products increased from 111.7% of the 1947-49 average in January, 1955, to 117.2 in January, 1956.

The higher earnings have brought extra rewards to stockholders in the form of higher dividends. This undoubtedly has, and will, stimulate interest in oil company equities.

Publicly reported cash dividends from oil refiners (including integrated companies), for example, show a rise from $1,076,000,000 in 1954 to $1,171,500,000 in 1955, according to to Commerce Dept. There also have been several major stock dividends, including a three-for-one split by Standard Oil Co. (N. J.).

A study of the initial financial reports shows that most companies improved their stated profits considerably in the last quarter of 1955, though there were some exceptions.

The improvement reflects—among other things—a cold winter (and the attendant heavier demand for fuel oil), a much-better-than-expected final quarter for business generally, and the contrast with a comparatively poor final quarter in 1954. In some instances, undoubtedly, bookkeeping practices also played a big role in the computing of final figures.

THREE REFINERS start taking crude from Interprovincial-Lakehead pipeline, and . . .

Canadian Crude Enters Michigan

Two Michigan refiners—Bay Refining Corp. and Leonard Refineries, Inc.—started running Canadian crude oil for the first time this week. About Mar. 15 they will be joined by a third Michigan refiner.

Initial shipments of Alberta crude from the Interprovincial-Lakehead pipeline systems were made to Bay Refining's 8,000 b/d refinery at Bay City last Friday. The company's monthly take will average 3,000 b/d.

This week Canadian crude started flowing to Leonard Refineries' Alma plant through the company's own pipeline connection with the Lakehead line at Bay City. Leonard will buy about 3,000 b/d for use in its three manufacturing divisions—Leonard-Alma (8,500 b/d capacity), Mid-West-Alma (10,000 b/d), and Roosevelt-Mt. Pleasant (7,500 b/d).

Osceola Refining Co., Inc., with a 2,000 b/d refinery at West Branch, is planning to buy about 1,000 b/d, starting next month after storage facilities are completed.

These Michigan refiners are having to turn to Canadian crude to meet their refinery needs because of the tight crude oil supply in the state.

Michigan has more than 150,000 b/d of refining capacity. Its production of crude has declined to about 30,000 b/d. And the largest part of its refinery requirements has been filled with crude from the Southwest and Mid-Continent. Increasing requirements, however, have made it hard for the smaller refiners in central Michigan to get enough crude. Many of these central Michigan refiners have been entirely dependent on Michigan crude, since they are not connected to crude pipelines from other states.

The three Leonard refineries now use about 25,000 b/d, part of which comes from the Mid-Continent. This reaches the Alma area through the Michigan-Ohio pipeline, which connects with the lines from the Mid-Continent at Toledo. Leonard acquired the Michigan-Ohio line through mergers with Mid-West and Roosevelt in 1955 (PW—Dec.9'55,p39).

Canadian crude is a logical source of supply to the three Michigan refiners, since the Interprovincial-Lakehead pipeline system from western Canada runs nearby.

Bay Refining only had to build about a mile of new pipeline, plus storage facilities, to connect with the Lakehead line at Bay City. Leonard already owned a 50-mi. crude line from Alma to Bay City. Osceola Refining will need only a short pipeline at West Branch to make its connection to the Lakehead line.

The delivered price of the Canadian crude to the Michigan refiners will be higher than prices they have paid for Michigan crudes.

Redwater crude from Alberta has a posted price of $2.49 per bbl. Interprovincial-Lakehead's pipeline tariffs, filed earlier this month, quote a Redwater-to-Alma charge of 75¢ per bbl. This would make the delivered price at Alma $3.24 a bbl., exclusive of gathering charges in the field. The price of Redwater crude at West Branch, exclusive of gathering charges, will be $3.11 a bbl.

Leonard Pipeline Co.'s current flat postings for Michigan crude at the wellhead range from $2.62 to $2.98 a bbl. Bay Pipe Line's Michigan postings run from $2.50 to $2.98 a bbl. These prices are exclusive of gathering costs and transportation to the refineries.

Increasing use of Canadian crude by U. S. refiners may eventually bring delivered prices more in line with what the refiners now pay for domestic crude oils.

Canadian crude now reaches the U. S. in the Pacific Northwest, California, the upper Great Lakes region, and central Michigan. The nation's imports of Canadian crude last year averaged about 45,000 b/d, up nearly eight-fold from 1954. More recently, imports from Canada have run closer to 100,000 b/d.

The growing refining capacity in the Pacific Northwest (PW—Feb.17 '56,p46) will require large volumes of Canadian crude through the Trans-Mountain pipeline system. And it's quite likely that the Michigan refiners' requirements for Canadian crude also will expand.

The extent of the future use of Canadian crude in Michigan may decide whether or not delivered Canadian crude oil prices become more competitive with U. S. prices. The reason is that this is the only area where Canadian crude directly competes with Southwestern and Mid-Continent crudes.

Leonard's decision to use Canadian crude may be the tipoff of its rumored expansion of refining capacity, and of a possible diversification into the petrochemical field. Expansion has been talked since the company first made known its plans to acquire the properties of Mid-West and Roosevelt. And last week it was learned that Leonard is giving serious consideration to petrochemicals.

What's New / IN THE INDUSTRY

Labor Plans New Oil Drive

The oil industry has been singled out as one of the top targets for a new organizing drive by AFL-CIO. John Livingston, director of organization, noted in a campaign blueprint that his department's 300 organizers will be backed by an initial working fund of some $4-million. Details of the blueprint were made known at the recent AFL-CIO executive council meeting in Miami.

Livingston noted that jurisdictional disputes exist between rival oil unions, as in most other industries. He said these unions must settle the jurisdictional trouble before the organizing department will move into their territories. This is expected to slow the drive for some time.

When the drive gets under way, it won't be a mass movement. For that reason, AFL-CIO will underplay its campaign in the next few months. Livingston's department will work in conjunction with the individual unions, such as the Oil, Chemical & Atomic Workers Union, but the federation will supply most of the initial funds.

•

Thumbs Down on Asphalt

The Air Force has decided to specify that only concrete is to be used in construction of primary airport runways. This follows studies showing that asphalt doesn't hold up under the weight of heavy combat aircraft, the Air Force says.

However, asphalt may still be used for secondary taxi strips, aprons, and the like. The Air Force, with Defense Dept. approval, has determined that the entire runway is now a "critical area," where concrete may be specified without regard to the fact that asphalt may be cheaper. Until recently, only 1,000 ft. at each end of a runway, and similar hot spots, were so classified.

The new policy will show up first in contracts to be let for about a half-dozen runways to be built during the next few months.

•

The size of Middle East oil reserves depends on who is making the estimate.

One figure puts the size at 117.3-billion bbl. at the beginning of 1956. That's the opinion of the production committee of the petroleum branch of the American Institute of Mining & Metallurgical Engineers.

Another estimate is that reserves were 230-billion bbl. at the end of 1954. It was made by Wallace A. Pratt in a report released recently (PW—Feb.10'56,p26).

A. H. Chapman, assistant to the vice-president for government relations of Arabian American Oil Co. and chairman of the AIME committee, said this week that his committee wasn't challenging Pratt's estimates entirely.

"Middle East oil men know that no reserve estimates for that area, advanced by experienced engineers, are beyond the realm of possibility," he said.

•

The United States will be producing 30% more of its crude through some form of pressure maintenance within the next 15 years. This is the opinion of Dr. H. H. Kaveler, petroleum consultant who was formerly with Phillips Petroleum Co.

Speaking last week at Tulsa before 175 members of the Petroleum Equipment Suppliers Assn., Mid-Continent-Rocky Mountain division, Kaveler said that only about 20% of U.S. production is now through pressure maintenance. This figure will be raised to 50%, he believes.

The general "backwardness" of producers is holding up water-flooding progress, according to Kaveler. He thinks this can be partly remedied by concerted action on the part of equipment manufacturers and suppliers.

•

A shuffle in the sponsoring interests held in Trans-Canada Pipe Lines, Ltd., is expected to strengthen the company's financial position. N. E. Tanner, president of Trans-Canada, announced last week that Hudson's Bay Oil & Gas Co., Ltd., and Canadian Gulf Oil Co. have increased their sponsorship to 17% each. Canadian Gulf previously held an option on a 10% interest while Hudson's Bay held an interest through the Western Pipelines group.

To enable the two companies to increase their interests, Tennessee Gas Transmission Co. has reduced its holding in the company. The new ownership percentages are: Canadian Delhi Oil, Ltd., 24½%; Western Pipelines group, 24½%; Canadian Gulf, 17%; Hudson's Bay, 17%; and TGT, 17%.

Tanner says the new interests have provided Trans-Canada with the additional financial backing required to carry the company through the costly period leading to public financing.

•

The government's request for more funds to continue its shale oil work at Rifle, Colo., has been rejected. The House Appropriations Committee, in rejecting the Bureau of Mines request last week, also cut appropriations for shale oil research at Laramie, Wyo., from $507,500 to $307,000. The Bureau has asked for $1-million to continue its operations at Rifle.

•

A Maryland legislative subcommittee has dropped plans to finance the state's proposed port authority with a 0.3¢-a-gal. increase in the state gasoline tax. The present state gasoline tax is 6¢ a gal. The subcommittee abandoned the plan to hike the tax rate following a storm of protest from many organizations, including trucking interests.

•

Spokesmen for the petroleum industry told a House subcommittee this week that they oppose any increase in federal taxes on motor fuels, including the proposed Boggs bill for highway financing.

Representatives of the American Petroleum Institute and the National Oil Jobbers Council said that the federal government already is receiving more money from existing road-user taxes than is being spent on roads. NOJC representatives also asked for a change in the law to impose gasoline taxes at the jobber level, rather than at the refinery level.

•

Houston Engineers, Inc., has completed the task of removing stuck drill pipe from the Richardson & Bass record-depth test in Plaquemines Parish, La.

About 3,800 ft. of pipe was removed, and 26 ft. of 2⅞-in. was left in the hole. The operator called a halt to the proceedings because the sands to be tested are now clear. (The well has encountered about 470 ft. of promising sands below 20,000 ft.)

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PETROLEUM COMMENTS / By W. M. Jablonski

A Staggering Job, Any Way You Slice It

If you have any doubt left that the job facing the U. S. oil industry is truly staggering, take a look at this:

In the next ten years alone, this country will consume something in the order of 40-BILLION bbl. of oil. That's equal to:

- 80% of all the crude oil produced in the U. S. in the 97 years since the discovery of oil (53-billion bbl.).
- 50% of all the crude discovered in the U. S. to date (83-billion).
- 33% MORE than the existing proved U. S. crude oil reserves (30-billion).

* * * *

Startling?

And, believe it or not, that 40-billion bbl. forecast for the ten years is conservative. It's based on Chase Manhattan Bank's monumental new analysis of the oil industry's growth and financial needs for the period 1956-65 (PW—Jan.27'56,p9).

Like all banks, Chase did its darnedest to stay conservative. First it made several forecasts for this period. Then it pointed out that all such estimates in the past had consistently underestimated oil demand growth—and by no small amounts. Yet it wound up using for its own calculations one of the lowest of its own forecasts. (It settled for a 1965 total U. S. demand level of 13-million b/d—3-million b/d below some of its other estimates.)

* * * *

Now look at what this forecast means:

(1) We'll have to FIND most of that 40-billion bbl. of oil we'll consume during these 10 years. Unless we want to become dependent on a much higher proportion of foreign oil than now (14.3% of total demand), imports would supply only about 6-billion bbl. We'd have to find the remaining 34-billion domestically.

(2) In addition, we'll also have to ADD to reserves. That's needed in order to sustain the higher production rates that'll be required. Today, our ratio of crude oil reserves to production is 12.7-to-1. Many industry experts believe it can't safely drop much below 12-to-1 on a sustained basis.

(3) If U. S. demand climbs to 13-million b/d by 1965 (as Chase estimates), and if we aim at maintaining imports close to current proportions, we'd have to raise our domestic supply rate to around 11-million b/d by then. About 1-million of this could come from natural gas liquids. The remaining 10-million b/d would have to come from crude production. At a 12-to-1 ratio, that production rate would require crude reserves of about 44-million bbl. by 1965—or 14-billion higher than today.

(4) Thus, we'd have to find a whopping total of around 48-billion bbl. of new oil in the U. S. between now and 1965—34-billion to supply current consumption during this period, plus 14-billion to add to reserves.

* * * *

Any way you slice it, that's a mammoth domestic supply job. It's 60% greater than the record achieved in the past ten years.

Since the war, we have found 31-billion bbl. of new crude in the U. S.—an average of 3.1-billion a year.

Now we've got to find 48-billion bbl. in an equal span of time—an average of 4.8-billion annually.

And remember, this isn't based on any theory of supplying the entire demand domestically. On the contrary, it assumes further increases in imports in line with rising demand.

But these figures illustrate the magnitude of the job if this nation is not to become dependent on foreign sources for a higher and higher proportion of its requirements. It's quite likely that we may have to import more. And it's good to know we have plenty of American-controlled oil reserves abroad to draw on if we need to.

But the current crisis in the Middle East is a timely reminder that it would be short-sighted for a great industrial power like the U. S. to plan on becoming dependent on foreign sources for any larger proportion of its vital oil needs than it needs to.

* * * *

So there's only one thing to do: step up our current, already record, exploratory effort still more. Not just a little more. A lot more.

As the Chase Bank points out, however, even maintenance of the average postwar discovery rate of 3.1-billion bbl. will require "considerable effort." It's already dropping. Sharply rising oil-finding costs are reducing the incentives under existing crude prices, Chase says. And adds: "Either the discovery rate will drop, or crude oil prices will [have to] advance."

Obviously, this country can't afford to let the discovery rate drop. We can't afford even merely to hold it even. We've got to raise it.

The more one looks at the job ahead, the more inescapable grows the conclusion that a crude oil price advance is needed. Not only needed, but essential to this nation's oil security.

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Tenite Butyrate pipe offers many advantages over metal pipe and has proved itself in all types of fields for several years. Today, the question no longer is, *"Will Butyrate pipe do the job?"* but rather, *"When will you give Butyrate a chance to do the job?"*

For further information and technical help in adapting long-lasting Tenite Butyrate pipe to your operations, write: EASTMAN CHEMICAL PRODUCTS, INC., Kingsport, Tennessee, subsidiary of Eastman Kodak Company.

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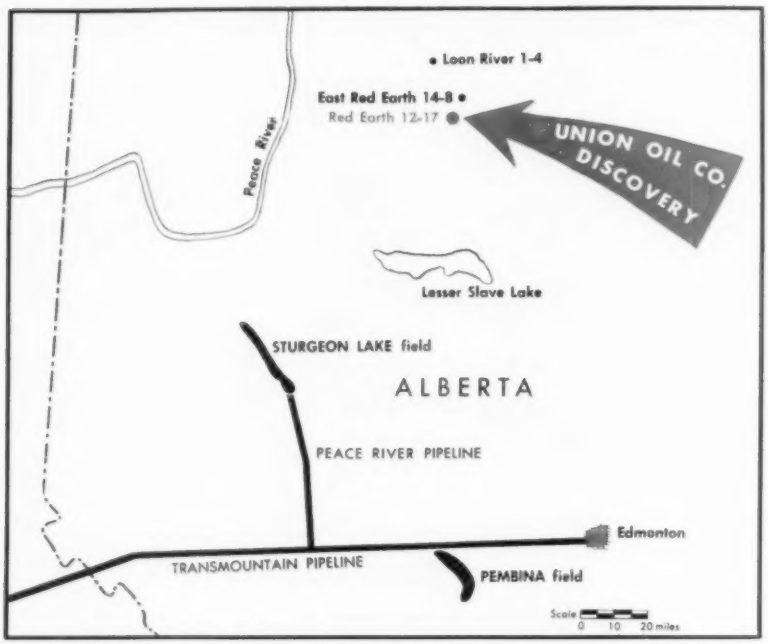

ALBERTA STRIKE plus Saskatchewan and British Columbia developments tell why . . .

Activity Is High in Canada

Union Oil Co. of California is moving briskly this week to confirm an Alberta discovery which is exciting new interest in the already booming prospects of western Canada.

The company stepped out 4 mi. north of its discovery well, Red Earth 12-17 (map), to spud in at Red Earth 14-8, and 18 mi. north to begin drilling at Loon River 1-4. It's a race against time to determine the extent of the strike, for spring thaws will make drilling in the muskeg impossible.

The discovery well is being called Alberta's most significant of the young year.

In a production test last week from 4,744-59 ft. and 4,766-80 ft., in the Gravel Wash, a porous, detrital sand on top of the granite basement, the well flowed 66 bbl. of 38-gravity crude in 2 hrs.

The test was Union's first try in the current play. Location was picked on the basis of geophysical work, and from subsurface information obtained from two dry holes drilled by Imperial Oil Co. in 1952 within 4 mi. of the discovery site.

The new well is 220 mi. north-northwest of Edmonton, 95 mi. northeast of Triad Oil Co.'s Iriquois River Granite Wash find, now being tested, and 60 mi. northeast of Union-Evans-Hudson's Bay Heart River venture, an indicated Granite Wash find which was suspended after production tests.

The discovery has set off a frantic scramble for leases. Alberta applications now total about 10-million acres, Premier E. C. Manning reports.

An official of the Provincial Dept. of Mines & Minerals says that on the day after the discovery more lease applications were received than on any other single day on record. Virtually every company operating in Alberta is trying to get into the play.

The reason so much land is available is that northeastern Alberta has been largely neglected for the northwestern foothills, and for those areas in the path of proposed transmission lines. The Red Earth strike was the first of importance in the northeast.

Union had acquired an additional 500,000 acres of crown lands to the north of the 500,000-acre block on which the discovery was made.

The find is about 3 mi. from the southern edge of the company's holdings. Canadian Gulf Oil Co. holds acreage to the south. Union also has a 75% interest, with Charter Oil Co., in a 200,000-acre tract adjoining the former's 100% holdings on the southwest, but this is in a different play.

Initial production from the field would be trucked out to Edmonton.

The crude would either go directly to Edmonton or by way of the nearest point on the Northern Alberta Ry. First, though, good access roads must be built through the area.

Nearest pipeline outlet would be the Peace River line at the Sturgeon Lake field, 128 mi. southwest.

This line, to be completed in mid-March, ties in near Edson with the Transmountain line, which leads to Vancouver and refineries in the state of Washington. The Peace River line will have a capacity of 45,000 b/d, but normal throughput will be 8,000 b/d, the allowable granted to North and South Lake and Little Smoky fields.

Two small refineries are under construction in the Peace River country.

A plant at Dawson Creek, British Columbia, will go on stream any day now, with a daily capacity of 2,000 bbl. Most of its crude will come from the Sturgeon Lake field.

The Grande Prairie refinery (about 3,000 b/d) is being reassembled after being moved from Winnipeg, Man., and is scheduled for completion in late October. Its sources will be much the same as the Dawson Creek plant.

Saskatchewan interest is being fanned by the first Bakken (Mississippian) production in the Williston Basin and the first production of any kind in the south central part of the province.

Mobil Oil of Canada, Ltd., made the discovery at a location surrounded by earlier abandonments. The well is 28 mi. north of the Montana border. Nearest production is 60 mi. east.

On initial test at 5,971-89 ft., the well recovered 200 ft. of mud-cut oil and 250 ft. of highly gas- and oil-cut mud, no water.

Exploration in British Columbia will account for an expenditure of $60-million plus this year, the petroleum division of the province's Dept. of Mines predicts. This means that one of the biggest oil hunts in history is shaping up.

The government thinks the play in the Stony Lake region, at the northeast end of Monkman Pass, could be "the most significant piece of work undertaken in the province."

A record 267 rigs are working or moving to locations in western Canada as a whole.

The previous high was 255 last August. Field development is occupying 153 rigs, and the other 114 are prospecting.

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New Product Curbs Lost Circulation

A new bridging material for controlling lost circulation of drilling fluids and cements was unveiled this week. It's called "Wellpoz." The developers say that it has many advantages over existing bridging agents.

Wellpoz is a special montmorillonite volcanic ash of great homogeneity. It comes from a deposit near Howard, Colo., said to be the only one of its kind in the United States.

The product was developed and tested by Carroll V. Sidwell, of Tulsa, consulting petroleum engineer who is research director of Wellpoz, Inc., the new distributing company. Sidwell was formerly head of Tulsa University's School of Petroleum Engineering.

The new product is fast and efficient in tests.

In a well in the Texas Panhandle—an area notorious for lost circulation—six separate "thief" zones were permanently treated while the bit was drilling at each depth. Lost circulation on bottom while drilling at 6,775 ft., and again at 6,996 ft., was regained when other bridging materials failed.

It's cheaper to use than perlites, ground plastics, or nut shells, and is competitive in price with ordinary cottonseed hulls.

The new product sells for $1.75 for a 60-lb. sack delivered in West Texas. Cottonseed hulls sell for $3.50 per 100 lb. in bulk. Plastics and ground nut shells cost more.

Because of its varied particle size, Wellpoz fills up thief zones without contaminating productive formations.

As it enters an opening, the larger particles collect first, followed by the next smallest, and so on down to the finest grain.

Laboratory tests with one brand of API Class A (Type 1) portland show that compressive strengths, when used with up to 75% by absolute volume of Wellpoz to cement, are almost identical to strengths obtained with other available pozzolans (siliceous rocks of volcanic origin). Compressive strengths of the material in cement are said to be much greater than are developed by perlite cement, either at atmospheric pressure or under pressure usually encountered in wells.

A recent survey on the percentage of fill-ups (behind the pipe) on production casing in the San Juan Basin revealed that operators usually are satisfied with 50% to 70% efficiency. But on a recent well drilled to 5,700 ft. and set with 5-in. outside-diameter casing in a 6¼-in. gas-drilled hole, Wellpoz was used in equal volumes with cement and a 100% fill-up was obtained.

"Experienced persons in this area have concluded that this is another 'first' for pozzolan bridging material," says Sidwell. "Lack of desired fill-up indicates that cement without bridging material may penetrate the producing zones and permanently injure the potential producing capacity of wells so completed."

The chemical and physical characteristics of Wellpoz are similar to pozzolana found in Italy and the "Trass" type in Germany. It is gray in color, and similar in appearance to cement. But the similarity ends there: Wellpoz has a specific gravity of only 2.4, compared with 3.15 for portland. Density of Wellpoz is 60 lb. per cu. ft., compared with 94 lb. per cu. ft. for portland.

Wellpoz creates efficient formation bridging action in drilling fluids by squeezing vari-sized particles into the thief zones as they are encountered in the drilling operation. And there are other advantages, according to the manufacturer:

- Lower mud cost.
- Less damage to the productive zones because of reduced infiltration of fluid.
- Better well samples than are provided by bulk or wall-sealing agents.
- More immediate coring and drillstem testing.

And there are several advantages to adding Wellpoz to cements, according to the company. Among them:

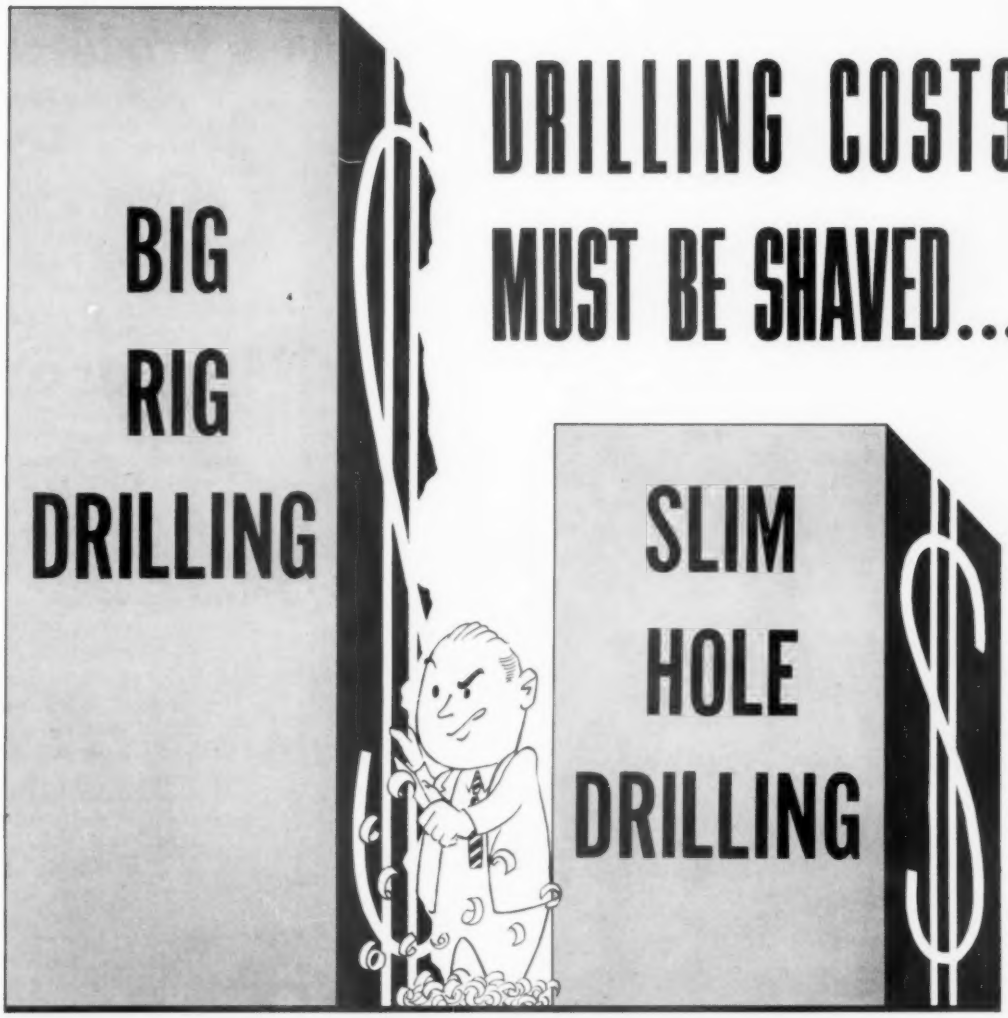
- Elimination of penetration of the cement slurry into the productive zones.
- Lower water-mixing requirements than with neat portland, other pozzolan, or perlite cements.
- Excellent perforating characteristics due to resilience of Wellpoz cement and the absence of shattering.
- Lighter, more pumpable slurries than are provided by portland cement alone.
- Better fill-up through fractured or porous productive zones.
- Excellent bonding with the wall of the hole.
- Economy in initial cement or when used in workover jobs.

Field cementing tests have shown that high satisfactory bridging action and consequent fill-ups can be ob-

1,700 Tons of Steel for 112 Ft. of Water

About 1,700 tons of steel will go into the platform that will be used by the CATC group for drilling in 112 ft. of water, deepest yet attempted in the Gulf of Mexico. The $1.2-million platform is being fabricated in five sections by Brown & Root, Inc., of Houston. The 110x146-ft. platform will have two deck sections like the one above. There will also be air-conditioned quarters for 30 men.

DRILLING COSTS MUST BE SHAVED...



NEARLY 40% OF LAST YEARS 50,000 WELLS WERE DRY!

Oil company management should investigate the savings made possible by using MODERN Slim Hole Drilling techniques. Behind this statement are sound economic developments that lower the drilling costs of both exploration and production wells. Only by reducing drilling costs can the industry continue to drill the necessary number of wells required to maintain United States production at a high level.

Only one well in nine drilled in search of new oil finds production. This is a staggering burden for your drilling budget to bear. In many areas, Slim Hole Drilling promises to reduce both development and exploratory drilling costs.

Slim Hole Drilling can be an important economical technique if it is properly used. Technically and economically the equipment and procedures are ready. Now, the next step is for you, the operator and contractor, to find out how Slim Hole techniques fit into your drilling program.

To help you properly evaluate this technique, Cardwell has prepared a factual book which points out where economies can be made by using less expensive equipment and a smaller hole to reduce costs. Be certain that your operating personnel are well informed. *Write for your 150-page reference book,* "Slim Hole Facts." If you would like to have technical information, write Philip L. McLaughlin, Director of Drilling Research, Cardwell Manufacturing Co., Inc., Wichita, Kansas.

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tained with a 50-50 mixture of Wellpoz and portland. But as much as 100% by volume of Wellpoz can be used in cement—or in a fluid column ahead of the cement—for additional bridging action, as required.

Distribution of Wellpoz will soon be expanded to the Gulf Coast. Right now the company is concentrating on the Rockies and West Texas.

The product is at present available in Oklahoma, Texas, New Mexico, Colorado, and Utah. It is being prepared and shipped from a point near the deposit.

Wellpoz, Inc., was originally formed as an Oklahoma corporation, but is soon to be converted to a Delaware corporation. Head of the company is Critchell Parsons, who is president of Beaver Lodge Corp., Dallas. Parsons owns the entire deposit of Wellpoz at Howard.

Deepest Oklahoma Producer

British-American Oil Producing Co. has completed the deepest producer in Oklahoma after spending an extra $200,000 in overcoming the tricky faulting of the deep-lying formations.

The company's Harrison 2, Grady County, was finaled below 15,000 ft. in the Ordovician Bromide sands underlying the old shallow production of the Knox field.

On preliminary tests through small chokes the well yielded high-gravity oil or distillate at a rate of 30 bbl. to 40 bbl. per hour, plus gas estimated at 5½-million cu. ft. per day. Completion was in 60 ft. of open hole from 15,250-310 ft. A later test reportedly yielded 138 bbl. of 52.9-gravity condensate in 6 hours through 12/64-in. choke, with gas flow of 2-million cu. ft.

The complicated geology of the structure stretched operating time to eight months and the final cost to $700,000.

After months of preliminary study, geologists decided that the Ordovician sands could be reached with a 13,500-ft. test costing $500,000. To about 10,000 ft. the depth and cost estimates checked closely. But then a series of five faults was encountered.

The well would have cost even more if British-American had not deliberately drilled a slanted hole.

To drill a straight hole through steeply dipping formations requires low weight on the bit and slow drilling. So the operator located the well 1,000 ft. away from the target area on bottom and, weighted the bit to permit faster drilling. The added depth resulting from the faulting caused the hole to hit the target at 15,300 ft. instead of the planned 13,500 ft.

The strike is encouraging to those who believe that many of southern Oklahoma's deep structures will be rewarding.

Geologists think that oil or gas in even larger quantities will be found in the prolific McLish and Oil Creek sands at greater depths on this structure. But that question must await the drilling of future wells—which are now being planned, according to British-American. And further drilling must await a determination of spacing regulations that will justify the drilling of expensive 15,000-ft. wells.

OFFSHORE HAZARD of long standing has been minimized by invention of net for . . .

Safe Loading of Men, Material

C. G. Glasscock Drilling Co.'s mobile barge, "Mr. Gus," is undertaking its farthest-out assignment in the Gulf of Mexico with a new device designed for safer loading of men and equipment.

A rope cage will be used for the many daily transfers of personnel and light cargo from service boats to the drilling deck. Always one of the most hazardous tasks involved in offshore operations, transfers without the net would have been more risky than ever before because the barge's next assignment will be 63 mi. from shore.

At top and bottom of the cage are metal rings, each 6 ft. in diameter. They are covered with canvas, which is stuffed with kapok to provide buoyancy in the event the device falls into the sea. Vertical gaps in the ¾-in. rope pattern give access when the net rests slackly on the deck. These apertures close when the device is lifted by a crane.

Glasscock now has two cages in use, as do Salt Dome Production Co., of Houston; Off-Shore Co., of New Orleans; and The California Co. Zapata Off-Shore Co., of Houston, has one.

Keen Interest Shown In Offshore Leases

Nominations were received last week for leasing of almost 800,000 acres of submerged federal lands off Texas and Louisiana.

Nominations for the fourth government lease sale exceed in acreage those made for three earlier competitive sales on the Outer Continental shelf. Less than 600,000 acres were nominated for the third lease offering, about a year ago.

The last lease offering, on July 12, 1955, brought the federal government a total of $109,736,446, of which $108,528,724 was in bonus bids and $1,207,722 first year rentals. Cumulative receipts for the three offerings now amount to $252,141,077. In all, 240 leases are in effect, covering 889,376 acres, all located off Texas and Louisiana.

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HOW TO INCREASE CALIFORNIA'S RECOVERABLE OIL RESERVES

We believe every citizen and taxpayer has a personal stake in the Oil and Gas Conservation Initiative

A huge increase in California's recoverable oil reserves will result from an oil conservation measure for which title has been approved by the Attorney General.

Prohibits Waste of a Vital California Resource

This initiative differs sharply from other oil measures brought before the public in the past. It does not permit market demand curtailment and proration. It is designed solely to give the oil industry legal tools, to match its know-how, to carry out production practices necessary to enable the industry to be good stewards of California's oil reserves.

Insures continued high employment

It will enable a majority of the operators in a field to bring about practices which will prolong immeasurably the lives of fields in which they are employed, insure continuing employment to those in the industry far beyond present expectations, and provide a strong bulwark for the cornerstone represented by oil production that underlies California's whole economy.

Oil means three billion dollars in pocketbooks of Californians

The public welfare involved in good oil conservation is indicated by the fact that in 1954 the various petroleum products derived from California oil production added about three billion dollars of new wealth to the State.

For two years Richfield has conducted a public information program about oil.

As a public service and in our own self-interest, we have been telling the people of California how tremendous quantities of recoverable oil are being wasted by being left unrecovered in the ground.

Richfield engineers have told meetings of women's groups, community leaders and conservation groups how the physical waste of oil could be prevented, and the size of the public's stake in good oil conservation practices.

These meetings have always ended with strong expressions of support for action that would protect the public interest in this vital natural resource.

Public has demanded this constructive action

It is because of the very favorable public response to the information program that we decided to sponsor an initiative measure for an oil conservation law and bring the matter directly before the people.

Not enough new pools are being discovered in California to keep oil production equal to ever-increasing demand. We are now sending dollars abroad for the purchase of oil—dollars that would otherwise be circulated among our own people in payment for goods and services of all kinds.

Initiative provides only sure way to keep California's oil prosperity

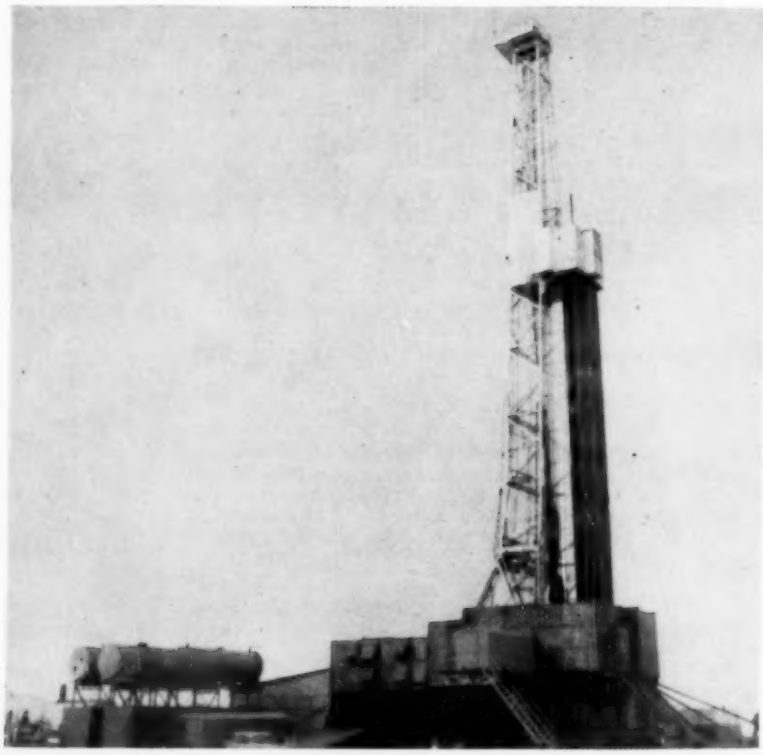
There is one sure way to increase California's reserves of recoverable oil and thus assure California of continued prosperity. That way is unit operation in as many oil pools as possible. California producers need the law to facilitate unitization.

My associate, R. W. Ragland, and I are the sole sponsors of the initiative petition. But discussions which we have had recently with other oil people indicate that a majority of the industry will support the proposal.

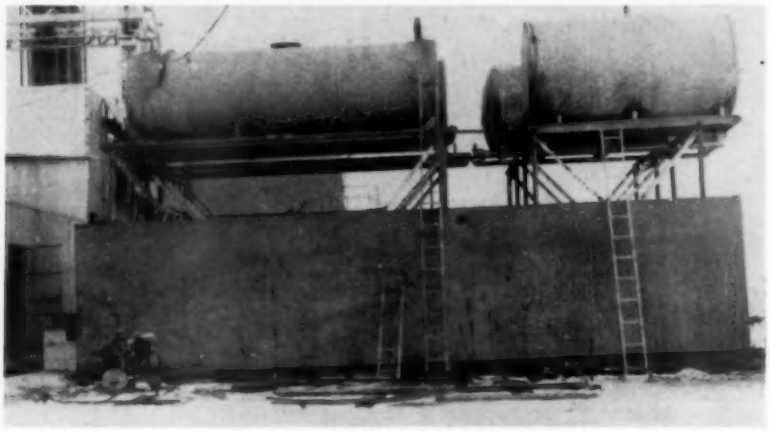
We expect the measure to qualify for the general election ballot, November 6, 1956.

Chas. S. Jones

PRESIDENT...RICHFIELD OIL CORPORATION



Giant of the Rockies . . .



. . . is Spry on Moving Day

Portability as well as unusual depth capacity have been built into a Phillips Petroleum Co. rig believed to be the biggest now active in the Rocky Mountains.

The unit compares with the rig that was used by Superior Oil Co. in 1948 to drill a 20,521-ft. hole at Pacific Creek, Sublette County, Wyo. that still stands as the deepest hole ever drilled in the region.

But while Phillips has general plans for several deep exploratory tests in the Rockies, the big rig now on location in the Boysen area, Fremont County, will break no records. It is expected to halt around 15,000 ft. in the Mesaverde formation.

Instead of a standard derrick, the unit has a two-piece mast which connects with only two bolts, thus cutting erection time to a minimum.

Moving time is reduced through positioning of the fuel tanks directly above the steel water tanks. When it's time to move out, the fuel tanks are dropped into the water tanks, saving two extra truck trips.

What's New

'Hot' Play Scheduled For Unproductive Area

A couple of California operators are going wildcatting for noncommercial production.

G. R. Nance & Associates will drill on the 310-acre Richardson lease in the Gould Hills area, ¾ mi. northwest of the Salt Creek field, Kern County.

Robert Fish, of San Francisco, will try to develop production on a 160-acre tract immediately south of the Richardson lease.

Both of the areas involved have long since been punched full of holes.

The Nance tract was prospected without success by Glenn McCarthy, of Houston, who went to 9,643 ft., and Los Nietos Co., subsidiary of Union Oil Co. of California, which went to 10,129 ft.

The Fish property was prospected without success by Los Nietos Co., Richfield Oil Corp., Intex Oil Co., Union, and Miller & York.

The trick is that both operators will try to develop production with one of the production engineer's best new weapons—the bottom-hole heater.

They believe that heaters, which are generally used to put new life into tired, old wells (PW—Nov.18'55, p18), will make it profitable to prospect the noncommercial pays they know they'll encounter. Nance & Associates, for instance, is going after the sand turned up by Caribou Oil Mining Co. back in 1919. The well yielded 8 b/d of 13-gravity oil—too little to bother with in those days, but money in the bank if the heaters can double production as they are now doing in California stripper wells.

•

Circulation Experiment

Ground-up chunks of rubber cannot be added to the long list of materials suitable for plugging off the loss of drilling fluid in troublesome formations—at least, not if they come in contact with oil.

Many drilling men had believed that rubber might have several advantages over other materials—cotton seed hulls, walnut shells, cellophane, etc.—now being used.

For one thing, rubber's flexibility would help it seal off a wall face where the pores are large and there is little

room for the usual bridging materials. Moreover, they thought the swelling action of rubber when it comes in contact with oil would be a distinct advantage.

Southwest Research Institute, of San Antonio, has just disclosed results of tests in two wells. The outcome was disappointing.

In one well, several tons of ground rubber treads, ¾-in. by ¼-in., were injected, with the result that circulation was restored in a difficult formation. However, several hundred feet farther down, oil was mixed with the drilling mud to lighten it, and many of the rubber chunks were washed to the surface almost immediately, causing additional lost circulation.

In a second test, a carload of rubber pumped into the hole failed to stop the loss of drilling fluid.

Directing the tests was Dr. Judson S. Swearingen, director of Southwest Research's petroleum technology division. Sinclair Oil & Gas Co., Cabot Carbon Co., and others sponsored the tests. Swearingen credits the original suggestion on using rubber chunks to the late J. M. Hewgley, Sr., Hewgley Drilling Co., Midland, Tex.

•

Producing with Numbers

Machines of the future will relieve the industry of many problems of drilling and completing wells, it was predicted at the annual meeting of the AIME in New York.

In a paper, "Producing Oil, With Numbers?," Henry H. Rachford, Jr., of Humble Oil & Refining Co., Houston, noted that computing and data-handling machines are freeing the mind of many burdensome tasks. "However, their value extends much further," said Rachford. "Because of the high rate of calculation, it becomes possible in a production of manufacturing operation to compete with real time. Measurements made during the operation often can be processed quickly enough to provide information for controlling the process.

"This control is necessary in the efficient production of oil from underground reservoirs, and is the basis of reservoir engineering. The value of the control depends on the assumption that during production the reservoir produces not only oil but also information—which, when interpreted in conjunction with laboratory data, serves to permit prediction of future behavior."

The use of these machines is spreading to such tasks as choosing conditions for surface separation of oil and gas, Rachford declared. "It seems likely they further can be applied successfully to a number of tedious problems in drilling and completion of wells, and to the interpretation and correlation of well logs."

•

Texas International Sulphur Co. has bought 50 oil wells in the Pewitt Ranch field., Titus County, Tex., in a move described as "an important diversification step." Purchase of the 40,000-bbl.-per-month production was announced by Carlos Kakouris, partner in Makris Investment Bankers,

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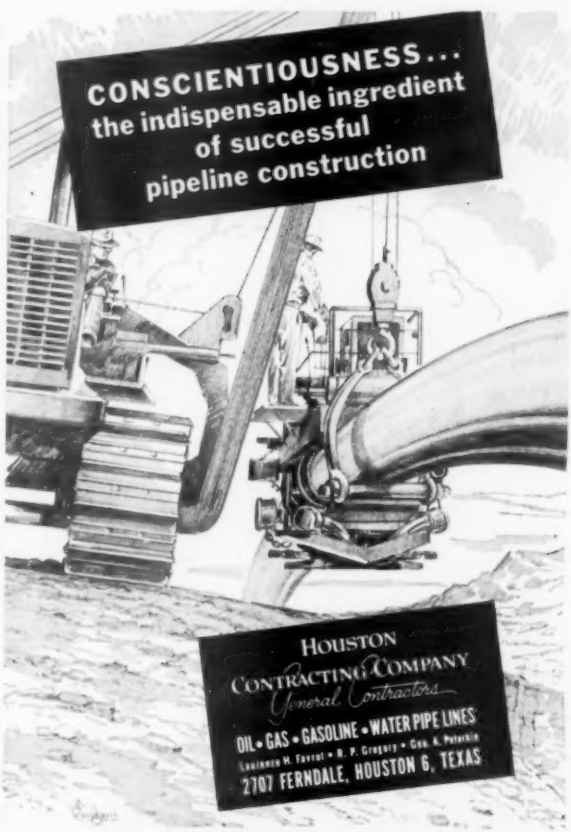


Miami, on behalf of M. A. S. Makris, senior partner in the firm, who is also chairman of the board of Texas International Sulphur.

•

A Tulsa independent producer has become the first operator in Oklahoma to be penalized under the new antipollution law. Levi Ackley was fined $1,000 by the State Corporation Commission for injecting salt water into Pontotoc County wells without a permit.

The commission said Ackley permitted salt water to pollute the surface around his wells in the Fitts pool. Farmers complained, and the Fish & Game Commission and State Planning & Resources Board undertook an investigation.

•

The Saskatchewan Court of Appeals has ruled that a registrar's error does not transfer mineral rights to a cetificate of title, and purchasers must search out the original grant to determine their rights. The ruling may affect thousands of certificates of title, and reverse the traditional procedures for title searches.

The court's decision dismissed an appeal by Prudential Trust Co., Ltd., from a lower court judgment which ordered a rubber stamped notation, "mineral rights included," struck from a certificate of title for a quarter-section in Saskatchewan. The mineral rights revert to the government on the ground that the rights had always remained with the crown despite the erroneous notation.

•

New Mexico's March allowable was set at 287,562 b/d, down 713 b/d from the previous month. Southeast New Mexico was allotted 274,145 b/d and northwestern New Mexico, 3,471 b/d.

•

The Alberta government collected more than $500,000 last week in a lease sale involving 12 parcels. Imperial Oil, Ltd., paid $318,681 for 6,680 acres in the Pentold area, central Alberta, in the largest single transaction.

•

Texas gas production increased 8% during 1955 to an all-time high, according to the University of Texas Bureau of Business Research and the U. S. Bureau of Mines.

Producers sold 4.9-trillion cu ft. for $391,246,000. The Texas Railroad Commision has estimated total production, including nonmarketed gas, at 5.8-trillion cu. ft.

Liquids from gas proved to be almost as valuable. Texas production last year totaled 2.8-billion gallons of natural gasoline and 3.7-billion gallons of LPG. Natural gasolines brought in $207,570,000, and LPG, $149,800,000.

•

D. D. Feldman Oil & Gas, of Dallas, plans an expansion of "at least 1,000%" in Canadian operations during the next five years. The firm now has 22 producing wells in Saskatchewan.

•

Lane-Wells has made a record-depth well log despite a temperature of 341F and bottom-hole pressure of 20,630 psi. A radioactivity survey was obtained at 19,700-21,681 ft. in Richardson & Bass' record-depth well in Plaquemines Parish, La.

•

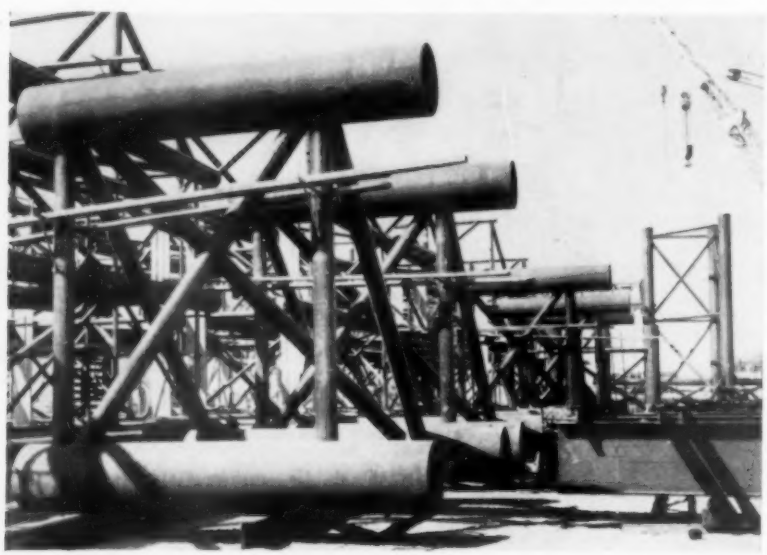
Drilling Highlights

Mississippi—Pure Oil Co. has a gas discovery in Monroe County, 11 mi. west of Amory and 19 mi. northwest of nearest gas production. The well had an open flow estimated at 3-million cu. ft. per day. Production is from 2,012-44 ft. in the Carter sand, Mississippian age.

Montana—A British-American Oil Producing Co. wildcat in Carbon County, 10 mi. north of Wyoming's Elk Basin field, has been completed for 338 bbl. of 54-gravity crude, plus 1-million cu. ft. of gas, on 24-hour test through 18/64-in. choke. Production is from the Lakota sand through perforations from 8,940-50 ft.

East Texas—Titus County was given a dual oil-gas discovery at a wildcat drilled 1½ mi. north of the Talco area by John B. Stephens, Jr., of Mount Pleasant, and R. L. Peveto, of Tyler. The well flowed an estimated 200-250 b/d from the Paluxy at 4,702-14 ft. and 25-million cu. ft. of gas per day from the Rodessa at 6,449-54 ft.

Utah—Phillips Petroleum Co. is running casing on its important B-1 Watson wildcat, Uintah County. The well, which had sought production in the Weber formation below 10,000 ft., is being plugged back to 8,295 ft. Little information is being released, but it is believed the well was unsuccessful in finding Weber pay and is now seeking completion in the Mesa Verde, where previous shows already had been obtained.



Wrought Iron Tried in Offshore Operation

Resistance of wrought iron to corrosion led engineers of Magnolia Petroleum Co. to use the material for an offshore installation near Eugene Island, La. Nearly 150 tons of wrought iron are employed for dolphin heads, horizontal supports of boat landings, diagonal and horizontal bracing. The metal is used in the vulnerable area from a few feet above to a few feet below mean low water.

Your children visit a new world each week

Each Thursday, teacher turns a knob and the class enters a new world—a world many are visiting for the first time via the Standard School Broadcast.

Since 1928, this program has introduced man's musical heritage to Western children. Now playing for its second generation, the Standard School Broadcast is probably the biggest "classroom" in history. It has an audience of nearly 1,500,000 listeners throughout the West, Alaska and Hawaii . . . students in 54,000 classrooms and adult listeners at home. They hear a symphony orchestra, a dramatic cast, choral groups and guest artists. Standard provides Teacher's Manuals as program listening guides.

Goal of the School Broadcast is to help listeners gain an absorbing new interest in music, and—through music—a broader knowledge and understanding of the world around them. We suggest that you listen in at home to enjoy the world's best music and to gain one more link with your childrens' interests. TUNE IN every Thursday . . . check your newspapers for time and station.

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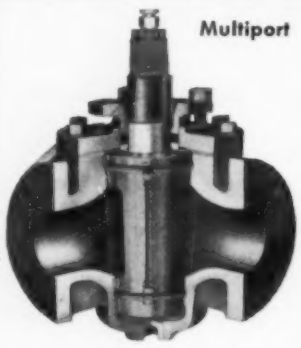

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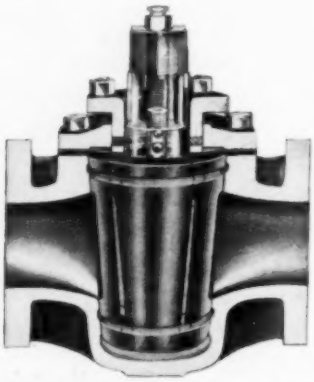
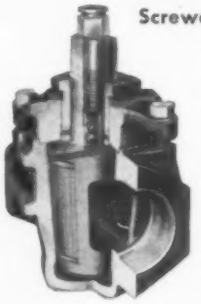
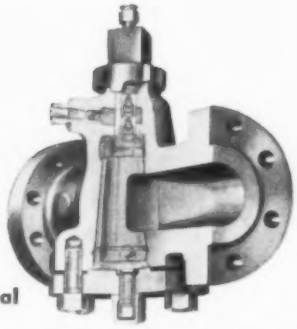


Bolted Gland Type



Screwed Gland Type



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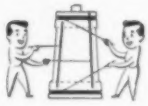
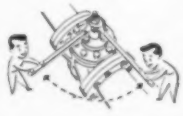


"Sealdport" Surrounds Ports with Lubricant Pressure.* ***"Sealdport"*** grooves at both sides of the plug give complete shut-off in either direction. In the closed position, the ports are completely surrounded by a sealing lubricant film. When turning the plug, grooves exposed to the line fluid ports are automatically disconnected.

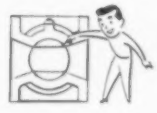
* Registered Trademark, Rockwell Mfg., Co.

2.



Positive, Quarter-Turn, Rotary Action. The tapered rotary principle is the simplest, most positive valve action known. The taper of the plug and seat maintains an intimate working contact between the two parts at all times. Quarter-turn operation is from two to five times faster than ordinary valves.

3.



Unexposed Seats Eliminate Corrosion and Erosion. Corrosive and erosive elements can wreak havoc on exposed valve seats. But in a Rockwell-Nordstrom valve the seat is *never* exposed. Material touching the plug in the closed position is scraped off when the plug turns back to open position. Critical seat areas are completely sealed by pressurized lubricant.

4.

Simplest of All Valve Designs. There are only three basic parts comprising the standard Rockwell-Nordstrom valve—(1) body, (2) cover, (3) plug . . . the only movable member. It is a mechanical axiom that "the fewer the parts, the fewer the repairs."

buy a better valve than

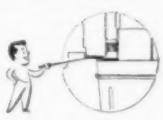
Nordstrom

5.

Full Floating Hypreseal Plug. The Hypreseal stem is entirely independent of the tapered valve plug except by a floating equalizer ring. The stem has a long threaded engagement in the neck of the valve body to carry the outward line pressure thrust and seals against leakage without excessive friction of deep stuffing boxes. The stem thread is lubricated and sealed by lubricant from the chamber surrounding the equalizer. Injection type packing prevents escape of lubricant around the stem.

6.

Resilient Plug Seating. In Rockwell-Nordstrom valves the plug has a small, but highly important, degree of resiliency. This prevents binding, allows the lubricant "jacking" action to function properly, and avoids unseating which would result in loss of lubricant, seat exposure or damage.

7. 

Shoulder Seal. The shoulder type of stem seal is used in preference to conventional stuffing boxes. It is compact, produces a minimum of friction, and combines the functions of stem seal and thrust bearing.

8.

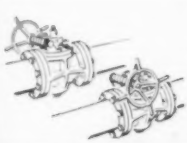
Smoothly Contoured Passages. The interior of Rockwell-Nordstrom valves presents an unbroken line devoid of crevices for any lodgment of line contents. Flow characteristics are designed for minimum pressure drop.

9.

Repackable under Pressure. The Rockwell-Nordstrom Hypreseal is the only valve that can be repacked under any line pressure and in any position. This eliminates shutdown of the line. No packing gland or stuffing box is used.

10.

Adjust or Lubricate under Pressure. Rockwell-Nordstrom valves are the only type of valve that can be fully adjusted and lubricated in service. In any operating position the plug can be jacked from its seat by a few turns of the lube screw or by injections with a lubricant gun.

11. 

Flow Either Way at Any Differential. Rockwell-Nordstrom valves are not restricted to one-way flow. There is no single "pressure side" requiring a specified end to go on the upstream side. Since the Rockwell-Nordstrom non-wedge action and transfer of plug pressure to the lubricated seat allows *operation at any pressure differential* within its range, galled or frozen valves and by-passes are eliminated.

12.

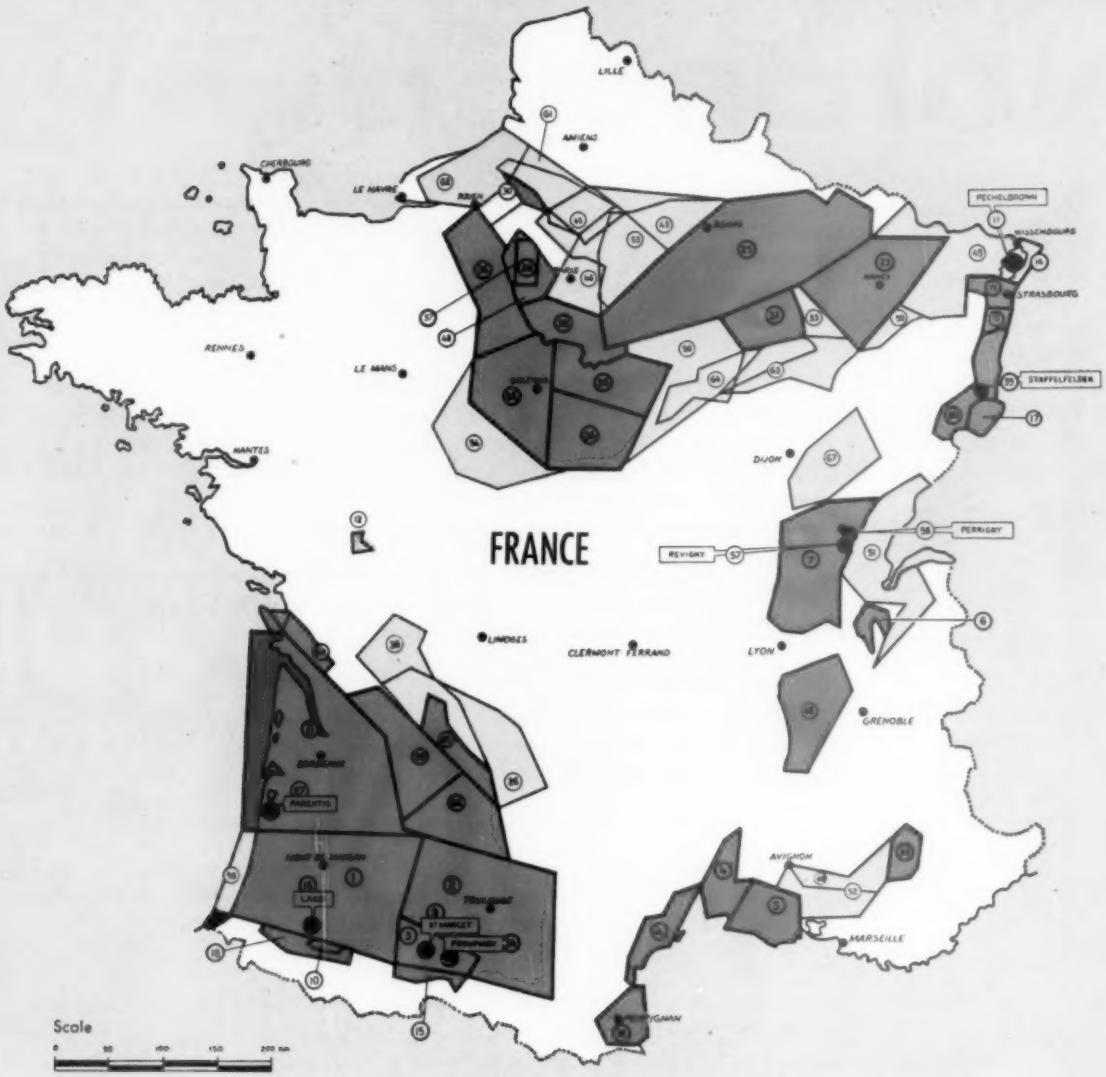
No Bonnet Cavity—Saves Weight and Space. Compare the overall dimensions of Rockwell-Nordstrom valves with any other type of valve and note the saving in space. For most Rockwell-Nordstrom valves the space occupied is little more than the diameter of the line pipe flanges.

ROCKWELL-Nordstrom VALVES

Lubricant Sealed for Positive Shut-Off

40th YEAR *of lubricated plug valve leadership*

New Interest Centers on Intensified



Key

Exploration Permits

Requested:

Granted:

Exploitation Rights

Requested:

Parentis
Perrigny
Revigny

Granted:

Pechelbronn
St. Marcet
Proupiary
Lacq
Staffelfelden

Companies

S.N.P.A. - S^te Nationale des Pétroles d'Aquitaine
S.P.G. - Société des Pétroles de la Garonne
R.A.P. - Régie Autonome des Pétroles
C.E.P. - Compagnie d'Exploration Pétrolière (ex-S.N.P.L.M.)
ESSO-R.E.P. - Esso-Standard S.A.F.
S.A.E.M.P. - S.A. d'Exploitations Minières PECHELBRONN
S.A.P.C.O. - S.A. des Pétroles du Centre-Ouest
PREPA - S^te de Prospection et Exploitation Pétrolière en Alsace
FROPEX - France Outremer de Prospections et Exploitations Pétrolières
C.F.P.N. Compagnie Française des Pétroles (Normandie)
S.A.F.
C.P.G. - Compagnie des Pétroles de Guyenne
S.P.V. Société des Pétroles de Valence
SHELL FRANÇAISE
PETROREP
S.E.P. - S^te d'Etudes Pétrolières
MOBILOIL S.A.F. ex-Socony-Vacuum Française
C.F.P.G. - Compagnie Française des Pétroles (Gascogne)
S.A.F.R.E.P. - S.A. Française de Recherches et d'Exploitations Pétrolières

Courtesy of Le Journal des Carburants

Hunt for Oil in France

New interest centers this week on France's bustling search for new oil as an affiliate of Standard Oil Co. (N. J.) surrenders half the concession acreage in southwestern France on which it found western Europe's largest oil field to date. Which of the many foreign and French oil groups will pick up the acreage north of the Parentis field that's being given up by Esso-Rep is anybody's guess at this early stage. Socony, for one, is interested in it.

Numerous—and intricately interrelated — companies, including U.S., British, and British-Dutch interests, have been packing France's three major sedimentary basins with a maze of concession bids. The rush started when the March, 1954, discovery of Parentis revitalized hopes of finding new oil in metropolitan France, where the small known fields have been steadily petering out.

The reason for the snowballing interest in new exploration is highlighted by the 75% jump in oil output in 1955—all of it accounted for by Esso-Rep's growing Parentis production. There was actually an over-all decline in all other fields combined. Total French output was modest, at an average of about 17,500 b/d, against 10,100 b/d in 1954. It filled only a small fraction of France's total demand, now running at about 280,000 b/d. Esso-Rep's output for the year averaged 11,500 b/d, or 66% of the total. No new production was developed by the five other producing companies, and output of each declined.

Thus far, the Esso discovery accounts for the major part of France's oil reserves, which are estimated at about 120-million bbl. Although the Parentis field is not yet fully outlined, Esso currently estimates its reserves will prove somewhere around 100-million bbl. Its Mothes field, which lies 7½ mi. to the east of Parentis on a completely separate fault block, is a small one, of unknown but probably limited extent.

Spurred by the promise of this find, private and government companies last year spent an estimated $28-million on exploration. This expenditure is expected to grow markedly in 1956, to at least $36-million. Exploration will be stepped up as the government untangles the many concession bids submitted.

Esso-Rep will invest $5½-million this year on its remaining acreage in the Aquitaine basin. This is almost as much for these 2.2-million acres as the $6-million the company spent for drilling 18 wells in 1955 on the whole of the concession. Four drilling rigs and four seismic crews will be used to continue development of the Parentis structure and exploration beyond it. Results of offshore studies made last fall are also awaited.

The acreage Esso-Rep retains covers the southern portion of concession No. 8, below Bordeaux, plus two blocks to the north (map). One of these runs northwest of Bordeaux to the Bay of Biscay; the other covers the northeastern corner of No. 8. The original concession was granted in 1951 to Esso Standard S.A.F., of which Jersey Standard holds 63.2% and Gulf Oil Corp. 18.35%. Rights to the holdings were formally transferred in December to Esso-Rep, which was formed last year specifically for the purpose, with the usual representation of French government (10%) and private (1%) capital.

Meanwhile, Esso-Rep has requested further acreage, both east of its present area and in the Paris basin. It also awaits formal award in the next month or two of the exploitation permit covering the Parentis field (27 on map). Pending this grant, it operates the field under a special law passed in 1954 to permit development of the find.

Esso has paid a high cost for its position as France's No. 1 producer. For a total expenditure through 1955 of about $20-million, it has netted 12 producing wells, plus two potential producers (one each at Parentis and Mothes) now in process of completion. Eleven of the producers are at Parentis, one at Mothes. Total output at present is running at about 17,000 b/d, considerably short of the 22,000 b/d Esso earlier expected to hit by the end of 1955 (PW—Jul.22'55,p30). Now the company hopes to reach 25,000 b/d in 1956.

The Parentis wells have varying producing capacities. The largest, with production of over 3,000 b/d, is Parentis 11, in Lake Biscarosse—western Europe's first open-water well. The field's production comes from two different reservoirs. Only two of the wells are producing from the first of these, a 30-45-ft.-thick limestone at a depth of about 7,000 ft. The second is a 550-ft.thick dolomite at a depth of about 7,600 ft. All of the wells have a common water table at 7,872 ft., and their flow is controlled in order to keep the water table rising gradually at the same level all over the field.

Esso-Rep drilled a total of 147,907 ft. during 1955, with 18 wells completed and five more started. Now drilling are two at Parentis: No. 16, being drilled directionally into Lake Biscarosse from the shore, and No. 18, in the lake itself, west of No. 11. Also drilling are three wildcats: at Sanguinet, some 6 mi. north of Parentis; La Teste, 25 mi. north of Parentis; and Liposthey, 3½ mi. due south of Mothes. The latter is just being started following abandonment of another wildcat, at Saint Paul en Borne, in January.

Other foreign companies—including Caltex, Socony, Shell, British Petroleum, and D. D. Feldman—are in various stages of readiness for active exploration, with concessions pending, or companies already formed and beginning work on those already granted.

Fropex is now doing seismic work in the Paris basin and hopes to spud in its first well in the fourth quarter of this year. The company is a joint U.S.-French venture, with 45% owned by California Texas Corp., through Amofrance, and 55% by Cie d'Exploration Petroliere (PW—Sep.16'55, p25). The Caltex group had been interested in the Paris basin since 1952, which is when it originally requested concessions with the French company.

Socony's French affiliate, Mobiloil S.A.F., is doing some reconnaissance in the Paris basin but has not yet formulated a program for exploration in the near future, pending government action on its concession request. It may also file for acreage returned by Esso in the Aquitaine basin.

Independent U.S. oil interests are represented in Soc. d'Etudes Petrolieres, with D. D. Feldman Oil & Gas, of Dallas, holding 56.72% and Republic Supply Co., of California, 8%. The concessions requested are in eastern France, one of them close to the Perrigny and Revigny producing fields.

Shell, a long-time refiner and marketer in France, is now also getting into exploration through CPG, in which it holds a 38% controlling interest. Pechelbronn and Cie. Francaise des Petroles each hold 19% of the company. CPG carried out a gravimetric program last year and has just recently started seismic tests on its Aquitaine basin concessions.

For the first time, too, British capital is being invested directly in French oil exploration, by British Petroleum. Through two subsidiaries, BP holds 50% of the newly formed Soc des Petroles de Valence: 30% through

D'Arcy Exploration Co., and 20% through the BP French affiliate.

French companies—including both government and private capital—also have a heavy stake in new exploration. No new production was developed last year, despite considerable drilling, but a few developments further raised hopes of finding new resources. These were: the still-unevaluated oil strikes late in the year in the northeast, in Bas Rhin department; oil and gas shows encountered in the Paris basin; and the testing of important gas deposits underlying SNPA's shallow oil field at Lacq in the southwest.

Pechelbronn's oil strike near Strasbourg was described as "fairly important," but test results are not yet known (PW—Dec.9'55,p30). The company's production has been steadily declining, to only 715 b/d in 1955. It now has interests in new concessions through minority holdings in other companies—CEP, Prepa, CFPG, and CPG.

Prepa made the other oil find in northeastern France that excited some interest last fall, with a wildcat near Mulhouse (PW—Nov.4'55,p28). This flowed at the rate of 76 bbl. an hour from 4,691 ft. Since then, Prepa has also found oil in another wildcat, south of Hagenau, at a depth of 3,700 ft., with initial yield at the rate of 522 bbl. an hour. Neither well has yet been evaluated.

In all, Prepa drilled a total of 85,489 ft. in 1955. Despite completion of 9 producers out of 35 wells drilled, the company's total production continued to decline, with output last year at only 290 b/d, down from 500 b/d in 1954. The company is government-controlled, with minority interests held by CEP and Pechelbronn. Its new exploration concessions and pending requests spread through the entire northeast region.

Cie. Francaise des Petroles—in which the government holds 35%—is now getting directly into exploration in metropolitan France through two subsidiaries. This is in addition to its interests through minority holdings in other French companies. Its owns 80% of CFPG (the balance held by Pechelbronn), which this fall started geological work on its Aquitaine basin concession. Another company, CFPN, entirely owned by CFP, has two concession requests pending in the Paris basin. CFP has a substantial stake in Middle East oil production through its holdings in the Iraq Petroleum Co. (23¾%) and the Iranian consortium (6%). It also explores in the French Union jointly with the French government.

SNPA drilled a total of 130,000 ft. last year, including 16 wildcats, nine shallow development wells at Lacq, and three deep wells at Lacq. No new commercial oil production was found, and the company's oil output dropped to 5,000 b/d last year, from 6,200 b/d in 1954.

Out of five wildcats SNPA drilled in Lorraine, northeastern France, one —Morhange 1—found traces of gas and was bottomed in the Westphalian at a depth of 8,758 ft. Another, at Forcelles, encountered oil traces and was abandoned in the Rhyolite at 6,773 ft. Eleven wildcats in the southwest were dry. One of these was in Basses-Pyrenees, and the balance in Landes.

SNPA is now embarking on a four-year program to develop the extensive gas deposits underlying the shallow Lacq oil wells. The program calls for 25 exploratory wells, and an immediate start on construction of two plants—to be completed in 1957—to recover sulfur and liquid hydrocarbons from the gas deposits.

The company reports satisfactory test results on Lacq 102, which produced 254-million cu. ft. of gas during production trials from September through December. SNPA said the tests showed excellent resistance to corrosion of special steel pipes that it introduced during the trials. The company is government-controlled, with minority interests held by CFP and British Petroleum.

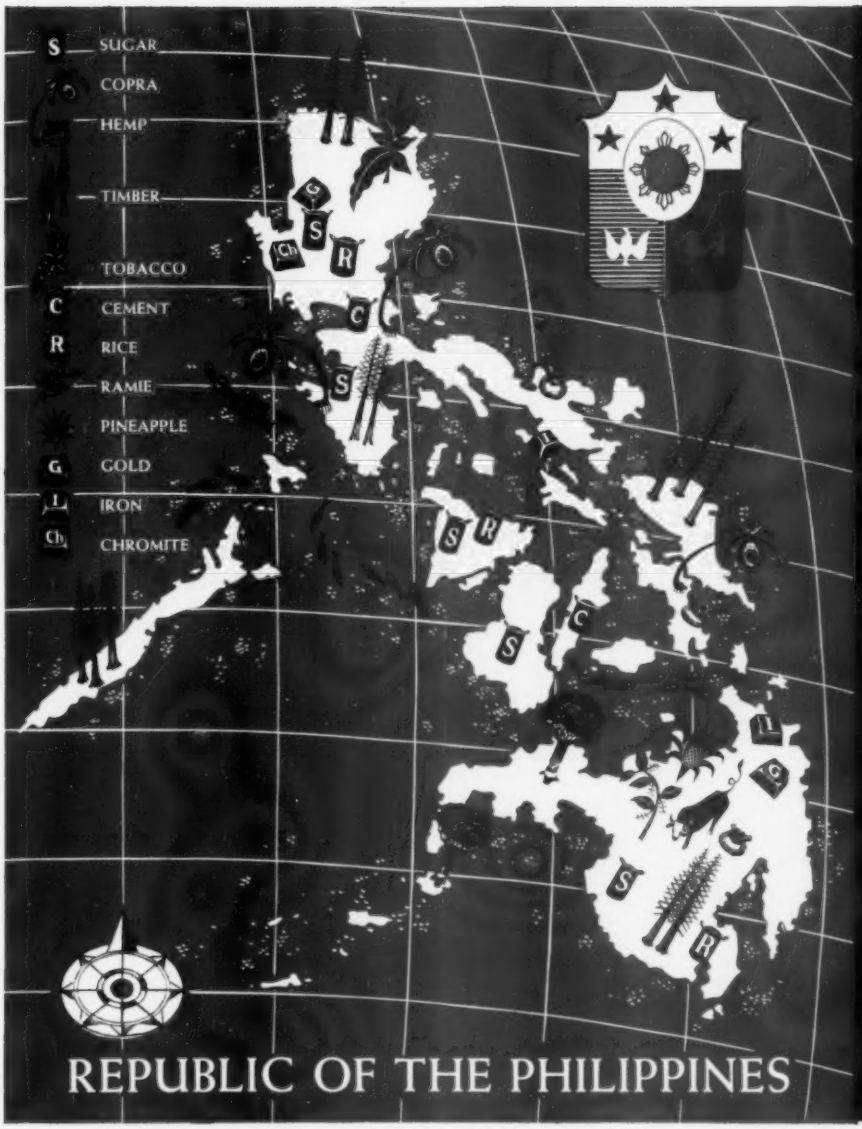
CEP, another government-controlled company (formerly called Soc. Nationale des Petroles du Languedoc Mediterraneen), will invest about $5.1-million on exploration this year. The larger part will be spent in the Paris basin acreage held with Caltex through Fropex. About a third will go into further exploration in its own concessions in the southeast. Last year CEP drilled a total of 38,960 ft. in the Rhone basin. Six wildcats were dry, and three others started are still drilling.

RAP, entirely state-owned, drilled 15 dry holes in 1955, with total footage of 52,772 ft. One of four wildcats in the Paris basin found slight oil shows and was abandoned at 8,425 ft. The company's oil output during the year was infinitesimal (1,470 bbl.), just about the same as in 1954. Its St. Marcet gas production, however, increased slightly, to 274-million cu. meters.

SPG, a company owned 50-50 by RAP and SNPA, drilled a total of 20,157 ft. last year on four wildcats in the Aquitaine basin. Two of these are still drilling; one was abandoned at 1,558 ft.; and another had noncommercial shows of gas in the interval 8,397-11,480 ft. and was abandoned at 14,038 ft.

Stanolind Starts in Jamaica

Jamaican Stanolind Oil Co. is just beginning a $2-million exploratory program in Jamaica, where it has taken over 5½-million acres of oil concessions from Base Metals Mining Corp. Ltd., of Toronto (PW—Jan.13'56,p24). Initially, Stanolind will be doing surface geological work, seismic study, and core drilling. Last year Base Metals encountered promising shows of oil and gas at several intervals in this well, which was drilled to 6,300 ft. at Negril on the western tip of the island.



VISITORS to the Philippines see a land of rare beauty . . . tumbling waterfalls, quiet lakes, wide valleys, smoke-tipped volcanoes, sunny coastal plains and the breath-taking scenery around Baguio.

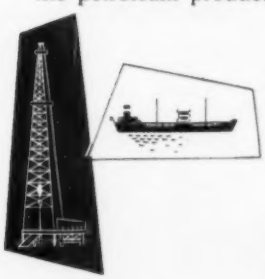
But even more inspiring is the sight of a free people busily building their new nation . . . 21 million of them spread over the 115,000 square miles which make up the land area of the 7,083 islands of the Philippines.

If the indomitable spirit and courage displayed by the Philippines people in withstanding the ravages of war are any indication, this new Republic is destined for a long and successful future.

Republic of the Philippines . . . with an abundance of rich farm and timberlands, mineral deposits, and surrounded by seas that teem with fish, these islands are also blessed with a warm and agreeable climate.

Today industry is taking its place alongside agriculture as the people of the Philippines energetically rebuild their shattered country toward a greater-than-ever peacetime stability with a better standard of living for all.

Standard-Vacuum is proud of the part its organization has played for half a century in supplying the petroleum products so essential to the welfare and continued growth of the Philippines.



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SOUTH PACIFIC ISLANDS • SOUTH WEST AFRICA • TANGANYIKA • THAILAND • UNION OF SOUTH AFRICA

What's New / AROUND THE WORLD

Mecom Plans Early Start in Colombia

COLOMBIA—John W. Mecom will kick off the first of several Caribbean ventures in April with offshore oil exploration in Colombian waters. This is part of the joint-development deal he signed last week with the Colombian government oil company (PW—Feb.17'56,p5). Last month he also acquired Haiti acreage (PW—Jan.20'56,p12), and he's currently dickering for a 50-million acre concession in Honduras.

Mecom's agreement with Empresa Colombiana de Petroles calls for a 75% contribution for development of four concessions totaling 500,000 acres, with a $15-million investment by Mecom and $5-million by Ecopetrol. Initial exploration will be started Apr. 1 on the northern coast of Colombia, near Tolu, where Mecom says he expects to set up four to five rigs capable of drilling to depths of 9,000 ft. to 10,000 ft. This area lies about 70 mi. south of Cartagena, in the Gulf of Morrosquillo. This is close to Covenas, the terminus of a crude oil pipeline from oil fields near Cucuta.

This the second joint agreement to be signed by U.S. oil interests with Ecopetrol. The first was concluded in December by Cities Service for a 75% investment for exploration of the 2.2-million-acre El Carare section inland (PW—Dec.30'55,p22).

•

Atlantic Acts in Cuba

CUBA—Atlantic Refining's first Cuban test well in 13 years will be spudded in within the next couple weeks as the company awaits government action of new concession applications. Atlantic Refining Co. of Cuba, which is now "taking another look at the picture," had suspended drilling operations after drilling about 9 wells in Camaguey and Pinar del Rio provinces between 1939 and early 1943. The company has been doing geophysical work for the past two years on its present concessions of just under 1-million acres.

The new wildcat, Tina No. 1, will be drilled on Atlantic's Camaguey concession, at a site near Moron. Atlantic recently made a drilling agreement with Dr. Antonio Iglesias under which the Cuban will be given 1,000 acres as compensation for the cost of drilling when Tina No. 1 reaches 5,000 ft. Actual drilling will be done by Cuban Kewanee Oil Co.

Atlantic says its own drilling plans for this year will depend largely on how fast it can obtain title to additional Cuban concessions.

•

Stanvac Sets Wildcat

PAKISTAN—Standard-Vacuum Oil Co. is getting set to spud in its first Pakistan wildcat about June 1 in the western half of this split country. This week the company announced it is shipping a deep drilling rig and a complete prefabricated camp to Karachi this month to start drilling operations on its West Pakistan concession.

Site of this test well will be 10 mi. north of Jhudo, in the Indus River Valley. Drilling has been contracted to Southeastern Asia Drilling Co., a newly formed subsidiary of Southeastern Drilling Co., of Dallas.

Stanvac has been doing geological work in both East and West Pakistan for the past year, since a 50-50 profit-split agreement was concluded with the government in late 1954. The contract covers one 10,000 sq. mi. concession in each part of the country. Pakistan has a 25% participation and will contribute up to $15-million to the venture.

•

Pauley Gets Go-Ahead

JORDAN—Edwin W. Pauley Co. is set to start exploration here in April, following publication of a royal decree early this month (PW—Jan. 27'56,p32). This was the final step in implementing the concession agreement signed last year by the Los Angeles independent.

The agreement specifies that Pauley's eight-month period for surveying the entire kingdom is to begin within two months of the effective date of the contract. After this survey, Pauley will select one-third of the country as his final concession area. According to a Jordan report this week, Pauley's concession acreage may not include more than one-half the Jordan river valley, called the Ghurr. There has been no previous indication that the company's choice would be limited in any way.

Jordan expects to award concessions for the remaining two-thirds of the country to other oil companies after the Pauley choice is made.

•

More Pemex Pipelines

MEXICO—Pemex expects to award contracts by the end of this month for 400 mi. of new pipeline to expand its internal distribution system. Meanwhile, construction is being pushed on completion of the 350-mi. products line from the Tampico refinery to the Monterrey industrial center in the northeast. Last week Petroleos Mexicanos said it would let a contract to extend the Tampico-Monterrey line 240-mi. to Torreon, in north central Mexico, where a tank farm is scheduled to be built this year.

In addition the government oil monopoly expects to grant another contract for a 160-mi., 22-in. gas pipeline from the southeastern state of Tabasco to the Gulf port of Minatitlan. In connection with this project, there are persistent reports from Mexico that Pemex expects to sell gas from the large deposits in Tabasco to exporters who will liquefy it and ship it to Europe. Actually, however, there are no immediate prospects of an export market, and the government is making an effort to encourage industry in the jungled Macuspana region of Tabasco. Pemex is building a "Pemex City" there, near the Jose Colomo gas field, and an absorption plant is due to be completed by the end of this year. Sulfur companies will use much of the gas, but Pemex is trying to draw more industries into the picture.

•

Russian Deal Denied

YEMEN—There's no truth to a Cairo report that Yemen has backed out of its oil and mineral concession agreement with the U. S. group recently formed by Texas and New York interests, in order to grant rights to the Russians (PW—Dec. 2'55,p30).

Last week in Washington, George E. Allen, chairman of the board of Yemen Development Corp., the company headquarters, and the Yemen Legation all denied cancellation of the contract. This week the report was also denied in Cairo by El-Kadi Mohammed el-Shami, the Yemen charge d'affaires there.

The Cairo press had reported recently that the King of Yemen had decided to grant exclusive rights to Russian experts alone to search for oil in Yemen and would break his agreement with the American firm. The reports appeared just as the Yemen

Legation and the Soviet Embassy were carrying on negotiations to increase trade between the two countries. Recently the Soviet Union renewed a long-shelved treaty of friendship with the south Arabian kingdom, and the two countries agreed to exchange missions.

El-Shami told PETROLEUM WEEK in Cairo that the Soviet economic mission now negotiating the trade agreement with Yemen is not interested in hunting oil in Yemen. However, he said, the Russians have offered modern arms and military equipment for the Yemenite army, the poorest in the Arab world. He gave no indication whether the offer had been accepted.

•

Israel Oil Grant Hit

ISRAEL—Award of a choice oil exploration license to a new government-controlled company that includes minority U.S. interest is stirring controversy in Parliament between proponents of private and public enterprise.

The clashes arose when opposition party leaders intimated the license for acreage near Ascalon, in the Negev desert, had been granted arbitrarily to Naphta, the company which is 69% controlled by Israel Labor Federation companies (PW—Feb.3'56,p37). The concession, the critics said, had not been open to the tender procedure that is specified by Israel's petroleum code.

This is what the Parliamentary debates turned up: (1) The Labor Federation companies actually are short of funds and are thinking in terms of fund-raising campaigns and government financing for the new venture. (2) Foreign companies—including a Canadian group—had been turned down on the concession, though they were potential investors. (3) One government party and one opposition party are indirectly participating in the operation through party-controlled groups. (4) Also represented in the new company, surprisingly, is an association of "kibutsim," which are controlled by the labor parties and are supposed to devote their activities to agriculture.

This situation was tagged as "the most serious matter that has occurred in the history of the state" by Dr. Perez Bernstein, leader of the General Zionists and former cabinet minister.

Answering the critics, Mordehai Bentov, Minister of Development, said no invitations for tenders had been issued for the concession because the area is adjacent to the Gaza strip. The Petroleum Board, he said, could not risk granting a license in such a sensitive region to unknown foreigners. Thus far, he pointed out, oil exploration licenses have been issued to seven groups, five of which are foreign.

•

Rimrock Gets Contract

ISRAEL—Rimrock Tidelands, Inc., will supervise oil drilling operations for the companies that brought in Israel's first oil strike at Heletz last summer. The Shreveport-based oil and uranium development and producing company announced last week it had signed a management contract with Matzada Drilling Co., the operating subsidiary of Lapidot-Israel Petroleum and Israel Oil Prospectors.

Rimrock will furnish a drilling superintendent and other personnel for up to six complete rigs for Matzada and will also train Israeli personnel.

Philip G. Reynolds, manager of Rimrock's Gulf Coast division, in New Orleans, has been named general superintendent of foreign operations and is enroute to Israel with the first crew, to assume personal direction of the operation there. Five additional crews will be dispatched as required.

Matzada recently ordered two new drilling rigs in the U. S. to speed exploration in the Heletz region as well as in other concessions held by the two parent companies (PW—Dec. 30'55,p22).

Oil Search Reaches Picturesque Malta

Beneath the picturesque buildings of Mdina, ancient capital of Malta, a magnetic survey party makes calculations as a British Petroleum Co. subsidiary extends its search for oil to the historic Mediterranean island. D'Arcy Exploration Co. has now carried out geophysical surveys on Malta and neighboring island of Gozo. Sites for three test wells on Malta have been selected, and drilling is now under way on the first near Zabbar, 3 mi. inland from the present capital, Valletta.

● *NORVAL E. BAKER, foreign oil veteran, aids U.S. companies in . . .*

Sizing Up t

More and more U.S. oil companies are turning their eyes toward the potentially flush production of foreign lands. But many unfamiliar pitfalls face newcomers there. Thus, counsel from veterans of the international oil play is at a premium. One of the most qualified to give advice is geologist Norval E. Baker.

Now a consultant, with offices in New York City, Baker spent 18 years as chief geologist for Iraq Petroleum Co. and associated companies. From 1935 to 1953, he made frequent trips to the desert areas of Iraq, Syria, Lebanon, Jordan, Qatar, and other Middle East countries, directing geological exploration.

As early as 1919 he was exploring in Trinidad, British West Indies, for General Asphalt Co. And as a geologist for Jersey Standard in the 20s and early 30s he helped open up producing areas in the wilds of Venezuela and Colombia. In his years of supervising oil exploration, he helped discover some of the world's most prolific fields.

Baker has had his share of rough going. His "toughest job" was a geological expedition to eastern Colombia in 1930. The group arrived at the start of the rainy season, and left at the end. All streams were swollen. The men had to swim the pack mules over. And they crossed the streams themselves lashed to a wire line by leather thongs.

Baker himself carried a briefcase with $10,000 in bills no larger than $5. He slept with this stuffed briefcase as his pillow.

During World War II, Baker spent two years making an exhaustive study of all the oil fields of the world. This was a project of the Petroleum Administration for War, aimed at pinning down future oil supplies. It gave Baker a view of the world oil picture to add to his background in the Middle East and South America.

Oil men who have worked with him say, "He knows his way around. And he knows the Middle East like the back of his hand."

How does he see the outlook for U.S. oil men in new ventures abroad?

"Today, the foreign oil prizes are so large," says Baker, "that they dwarf domestic discoveries. And many operators are being pushed overseas by rising exploration costs and decreasing returns in the U.S."

"Foreign oil prizes are so large that they dwarf domestic discoveries."

"Any company entering foreign oil should make sure the political climate is favorable."

"The goal should be to make the foreign 'landlord' feel he has a good 'tenant.' "

"A good toolpusher overseas is worth his weight in black gold."

—Norval E. Baker

the Overseas Oil Hunt

Baker notes that exploration abroad is still largely confined to "the prime geological possibilities—the anticlinal structures." In the U.S., he points out, the oil companies have long since almost exhausted such structures. They are now drilling for other types of buried oil accumulators (stratigraphic traps, porosity belts, reefs, etc.), which are still to be found and tested in many foreign areas.

Baker says that, although the risks abroad are well known to the experienced operator, they may be overlooked by the newcomer. But he thinks the company that learns what the problems are has as good a chance for big discoveries as they would in the U.S.—or sometimes a better chance.

Baker's first piece of advice: "It is essential for a company to make a careful economic study before taking a foreign concession. That means weighing potential production against the purchase price of acreage, the down payment, minimum royalty, annual rentals, operating terms, and other factors."

Observes Baker, "This is where the big gamble comes. The new company faces such unknowns as the cost of development, quantity and quality of production, location of discoveries relative to the seaboard, and terrain conditions for export. Location is very important. The value of oil is often like most other things: It's as much a question of where you get it as what you get."

Because costs are high overseas, Baker terms it "to the great advantage of both large and small oil companies to pool their interests." Besides spreading the risk, he says, the companies also gain firmer relationships with foreign governments.

"Any company entering foreign fields," he continues, "should make sure the political climate of the country is favorable. It should assure itself a fair profit and get guarantees that agreements will be honored. The company might want to reinvest part of the profits within the country. But it should be allowed to take out a fair amount of profit for the benefit of shareholders back home."

However, says Baker, "Foreign countries have a rightful feeling of strong nationalism. It's their country. They rightly can say under what terms the resources are to be developed. But in order to attract the necessary technical knowhow and equipment, they must give due consideration to the company that risks its money—against no risk on the part of the country.

Baker feels strongly that negotiations will be most successful if the operator can win the confidence of the foreign government.

"The goal should be to make the foreign 'landlord' feel he has a good 'tenant,' one who has the ability to find the oil if it's there," Baker says. When asked by Arab sheikhs if their land had oil, Baker's typical reply was, "You can see as far down into the ground as we can. But if you have oil here, we can do as good a job of finding it as anyone else."

Baker advises operators to "go in with the idea of using as much of the country's facilities as possible." He includes buying food and construction materials locally, plus employing and training nationals.

He also thinks operators should study the language, mannerisms, and traditions of the country. His advice: "Place nationals on an equal footing. Avoid the misconception that they are backward. Encourage your people to mingle with the nationals, and to learn to know and like them."

Foreign operators should make an early, careful choice of personnel who are used to living abroad, according to Baker. You need people who can adjust to new conditions," he explains. "Potential employees overseas should be aware of the sometimes enervating work conditions."

On the other hand, Baker believes there are many advantages to life abroad, if the employee would stop to realize them. For example, he observes that the Middle East offers a great deal of diversion in its archeology. He himself has made a large collection of pots, jugs, hammered trays, chests, and rugs from Middle East countries.

And things happen that don't happen in the U.S. There was the time Baker was riding in a car over the desert in western Iraq. "An Arab rode over on a camel to intercept us," he recalls. "The man waved his hand before his mouth to show he was thirsty. We pointed to the water bag on the front of the car. He got off the camel. He raised the bag above his head to drink. Then he looked at us, and said in polite Arabic, 'May I drink some for tomorrow?' "

Baker gives a high rating to resourcefulness in the field. "A good toolpusher overseas is worth his weight in black gold," he says. "There are no warehouses nearby with the needed tools. In times of drilling difficulties, the ability of drillers to improvise is a must.

"And an observing geologist is a great asset. I mean the one who can turn up a good supply of shale for drilling mud for a remote wildcat."

A serious drawback is the lack of geological data on some foreign areas, Baker cautions. "Some companies start out with only the vaguest idea of the basic geology," he says, "especially in countries that have had few wells drilled.

Baker says a proper choice of the types of geophysics to be used can be critical. This is especially true in many desert and offshore areas (where no surface structures can be seen). He recommends getting geophysical contractors that are experienced in the area, if they are available. In any case, he thinks a thorough study of untested areas "is essential before a company commits itself to a long and costly term of exploration."

Even after such a study, Baker says, the operator has many question marks.

Baker's interest in geology started when he was a schoolboy in Iowa. His father had been a gold prospector in Colorado before the turn of the century. And Baker was always fascinated by a book, *Dana's Minerology*, in the family library.

He followed up this early interest by majoring in geology at the University of Iowa. And after overseas Army service in World War I, Baker took a petroleum course at the University of Birmingham, in England. The man directing the course, John Cadman, later became Lord Cadman, head of the world giant, Anglo-Iranian Oil Co. (now British Petroleum).

Baker has two sons and a daughter. And one of the sons, James, is now a geologist for Socony Mobil in Venezuela. Twenty-five years ago James, as a two-year-old boy, was in the same area, while his father hunted for oil there. Now Baker says of his son, "he's down there trying to find out if the old man missed anything."

DEPT/Management

Esso Disaster Plan: Industry Model

A disaster plan designed to minimize loss of production and provide effective use of personnel and facilities in the event a war—or peacetime—disaster strikes has been developed by Esso Standard Oil Co. The Esso plan could well serve as a model for multiplant companies throughout the oil industry.

Wilbur J. Reitze, assistant manager of the Sales Engineering department at Esso, has explained the plan recently to such groups as the Quartermaster Assn. and the American Ordnance Assn. He expects to outline the program to other groups in coming weeks. Reitze said the initial plan was drawn up about five years ago as part of the nation's industrial preparedness program during the Korean war. Since that time, Esso has become aware of the value of such a plan to cope with problems that might arise in the wake of fires, floods, hurricanes, or other natural causes, Reitze said. Therefore, he added, Esso will continue improving and expanding its plan despite the recent lessening of world tension.

Reitze concedes that the most effective way to protect industries from enemy attack, and most natural disasters, would be to go underground. But since the cost of doing this is prohibitive, other means must be found. One of the first steps, Reitze says, is to organize a corporate security committee, responsible for developing a plan to meet any foreseeable emergency.

Focal point of operations, if disaster—man-made or natural—hits, is an emergency control center which serves as alternate company headquarters.

Esso's alternate headquarters for the New York area is located about 30 mi. from the city, in what is considered a "nontarget" area. It is furnished with the equipment and facilities needed to permit effective operation of the reconstructed executive team during an emergency. Its basic function is to serve as a communications center for the executives who will set policy.

The remote control center is intended to be used only on a temporary basis since its facilities will accommodate only a limited number of key personnel.

Duplicate records on microfilm are kept in air-conditioned vaults at the control center, which also is equipped with telephone, radio, and other communication systems. Food and sleeping accommodations are available in the centers.

Esso, Reitze reports, also keeps another set of its important records in a similar vault in the Midwest. By using microfilm, considerable savings in space, and cost, are realized.

A kitchen and dining room facilities also are available at the control center, as is a good supply of canned, sterilized water. Reitze says the canned water also serves a medical function, in that it can be used with blood plasma. One of the obvious means of storing drinking water, he adds, is to use containers which previously have been used for gasoline. All Esso refinery and marketing units have been advised on procedures for decontaminating containers used for leaded gasoline.

Reitze says this store of canned water can readily be used to relieve distressed communities in time of peace. About a year ago, Reitze relates, Esso was prepared to supply several New Jersey communities with drinking water during a prolonged drought. But rains came just as the first truckload was about to move.

Communication systems link the control center with employee reporting centers and with all manufacturing units. Arrangements have been made to have Esso's telephone trunk lines located inland and pass through noncritical areas, to insure, as far as possible, continuance of service during an emergency. Key plant personnel have cars equipped with radio communication.

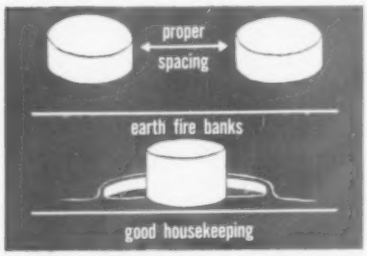
When disaster strikes, employees report as soon as possible to designated points, usually located in company bulk plants or district offices. The emergency control center then sends them where they are most needed.

Each Esso employee in the New York area has an identification card which also carries instructions as to which point the individual will report in an emergency. There are 16 such points in the area. For Esso's six refineries scattered throughout the country, the reporting points generally are the homes of designated plant executives. Important records and files are kept in these homes, and arrangements have been made with the telephone companies to give these home telephones preferential status in emergencies. In all cases, the location of the reporting points anticipates that, in case of emergency, traffic might be restricted, thereby forcing most personnel to reach their respective points on foot.

Steps must be taken to mitigate the loss of top personnel, which can be anticipated.

Executives at all levels at Esso have been taken through the emergency control center to learn its functions and to be ready for any eventuality. The disaster plan calls for the highest-ranking executive reporting to the control center to activate the program. To help guide him in the allocation of needed personnel, a complete inventory of employees, listing their skills and capabilities, is constantly

kept up to date in the center. Esso has found that rotation of key personnel helps build a solid core of widely trained workers who would be invaluable if personnel losses were heavy.



Damage by fire is perhaps the greatest threat to property. But the industry's usual safeguards against fire—for storage tanks, say—and its usual sound housekeeping practices will help cut possible losses in case of atomic attack too.

Reitze says the most economical method of minimizing damage in case of atomic attack is sufficient tank spacing and the construction of earthen fire banks around the tankage, a procedure which is already standard practice in the oil industry as a fire-prevention measure.

A danger in case of atomic attack would be the ignition of rubbish, paper, or vegetation around such tanks. And an intensive housekeeping program (which is also "best practice" in normal times) is the best protection against these secondary fires. But in addition to usual methods of storing petroleum products, Reitze suggests greater use of man-made, or natural, underground reservoirs.

The Whiting fire, Reitze adds, taught the industry many lessons (PW —Sep.9'55,p11). For one thing, he points out, Esso's plan now calls for volunteer company firemen to report directly to the fire marshal in charge, rather than to the scene of the fire. By doing so, they can be properly equipped and briefed before they reach the fire area. This will save valuable time, increase fire-fighting efficiency, and minimize dangers to personnel. Radio communications with the fire-fighters at the disaster scene also would help, as Whiting demonstrated.

Reitze advocates closer liaison between supervisory personnel and various government agencies concerned with defense problems. In an emergency, activities can be better coordinated if supervisory personnel have been taking regular, active part in programs of those government agencies. The important point, Reitze stresses, is proper planning, be it for attacks by man or nature.

Managers Train While They Work

A new college program is under way in Cleveland that ties the training of executives directly to a company's needs. It's the 23-week plan of Case Institute of Technology. Success in this trial run will give management a valuable new tool in developing managers.

This week three oil and gas men are among those completing the first three weeks of study at Case. Now they, and 17 others from companies of all sizes in other industries, will return to their offices. They will spend three weeks back on the job. For the remaining 17 weeks of the course, they will alternate one-week sessions on campus with three-week periods at their companies. Classroom time thus totals eight weeks.

The course trains men "in the formative stage, rather than after they have 'arrived.'" Case is taking men roughly in the 28-36 age bracket. It also makes a careful selection of participants. It wants to make sure they will take advantage of the training. And it wants a broad cross-section. Case feels strongly that a good part of a man's motivation to learn comes from contact with men from varied business backgrounds.

The system calls for close consultation on how the course may be fitted into each company's management development program. A Case man has a preliminary meeting with management to pin down objectives and to choose participants. Further meetings may be held at any time during the course. And Case plans to continue the relationship after the 23 weeks are up, through information bulletins and refresher courses.

An important link between the course and the manager's job is the requirement that he carry through a special study within his own company. This is a study that cuts across departmental lines. It allows the broad viewpoint of classwork to be applied to business practice. Sample topics: the desirability of expansion or merger; an analysis of the participant's own department.

Case says these studies are "of substantial magnitude and bring highly tangible benefits, not only to the men who conduct them, but to the company itself." The subject is selected at the time a man is chosen for the course.

The basic course covers a wide range of subjects, aimed at broadening the executive's on-the-job management skills. It develops his ability to use economic and technological forces, and broadens his knowledge of the humanities.

Subject matter includes: The relation between economics and business, operating and staff functions, problems of general management, communications skills such as logic, reading, writing and speaking, and other topics.

There are lectures and demonstrations on new technology that affects management. This includes operations research, data processing, information theory, nuclear power, and automation. Sunday evening sessions provide an introduction to the liberal arts.

Cost is $2,000 a man. This covers tuition, room, and meals. Participants must live at Case during the eight weeks of classwork (in a hotel near the campus).

What's New
IN MANAGEMENT

Present methods for measuring how well an oil company is doing may be outmoded by operations research projects now in the works. One major company P.R. man suggests that judging a company's progress by the growth in its assets or profits is inadequate. He says a company or a department may show excellent gains on paper, but actually be doing only a fair job of making the best use of its manpower and facilities. A possible new approach: (1) Analyze all resources and determine the theoretical maximum of efficiency; then (2) measure actual performance against this standard.

•

Intex Oil Co., of Bakersfield, Calif., plans to pool budgets with one or more other independent producers to underwrite increased exploration. In the past, Intex has farmed out many of its plays for drilling by other operators.

•

"There is no more accurate barometer of morale than the number of suggestion ideas coming in from employees," says a personnel manager for one of the biggest majors. He observes, "You can forecast trouble every time the ideas drop off. It boils down to relations with the supervisor. If employees don't get along with him, they won't suggest ways to improve the operation."

Commerce Set To Start New Refinery

● Getting O.K. for Rhode Island deepwater site —long eyed by others—took state, local, court action.

● A big problem is how to fit into a price-war market. Commerce has a possible solution:

● The company will process Middle East crude for majors, specializing in high-octane gasoline.

Commerce Oil Refining Co. has at last got the final go-ahead to build Rhode Island's first light products refinery. The State Supreme Court last week cleared up the last obstacle, which had held up the start of the proposed plant for nearly a year.

The court decision that put Commerce in motion, long after it had announced its intentions to build a refinery, settled objections to a building permit that the town of Portsmouth had issued to Commerce last May. The Portsmouth Priory, a Catholic preparatory school near the Commerce property, tried to block the permit. Failing that, it sought Supreme Court review of the town's action. The school asserted that the community had not received satisfactory safeguards from Commerce against possible "nuisances."

Commerce plans to take formal title soon to the 460-acre site it has held under option on Narragansett Bay. Construction is expected to start by mid-spring, according to Harold M. Geller, executive vice-president of the new refining firm. Completion is planned for December, 1957.

I. A Price War Area

Commerce's projected 30,000 b/d refinery will be located in one of the most competitive marketing areas in the country. But the company hopes to avoid the consequences of price wars by operating solely as a processor of crude oil for other companies.

"We didn't want to get into a situation where we could be strangled," Geller says. "We couldn't start out as an integrated oil company. That would be too costly and too complicated. We didn't like the idea, either, of entering the market through independents." So here is what the company did:

Two "major New England marketers" were signed up to supply Middle East crude oil to Commerce, and to buy the total finished liquid product yield.

One of these companies will supply 20,000 b/d of crude. An affiliate of this company will buy the finished liquid product yield from that volume of crude. Commerce will get a straight fee in this operation.

The other customer-supplier has a "back to back" agreement with Commerce. The refiner will buy 10,000 b/d of crude, then sell the equivalent liquid product yield back to the same company. On this operation, Commerce's profit will come from the difference between buying and selling prices.

"A condition in our agreement with both customers," says Geller, "is that we keep their names to ourselves. In time, I suppose, the names are bound to become known. But not through us."

Commerce has two other "protections" against the repercussions of possible price wars.

• **Commerce will offer its customers a saving of 42¢ per product bbl. over Gulf Coast posted prices, plus transportation.** This will be realized by refining Middle East crude oil on the spot in Rhode Island.

Heretofore the Gulf Coast has been the primary source of supply for the Rhode Island market. And the landed price of Middle East crude on the East Coast under long term contracts is today only slightly above the posted prices of West Texas crude at the wellhead.

• **The New England markets for premium gasoline are not depressed.** In fact, Commerce found, a high-octane manufacturer would be welcomed in the area.

"The way we figured it," says Geller, "is that the only soft spots in the New England market have been in regular-grade gasoline—not in premium. In 1955, the ratio was about 60% regular-grade sales to 40% premium. And with Detroit turning out engines with higher and higher compression ratios, it won't be long before the ratio is 50-50. In the race to keep up with octane requirements, every oil company is limited by existing equipment. Many refiners are buying gasoline blending stock from other plants to boost their own gasoline octanes."

Commerce will be in a prime position to provide this sort of a service. As Geller puts it: "We decided that since we were starting from scratch, we could plan facilities that will fill a definite need by the time we get into business."

II. Specialized Refining

Commerce is installing process units to convert a large percentage of its crude oil charge into lighter ends. One unique feature will be production of a "gasoline pool" of material of 93-clear research octane.

The "pool" motor fuel can be further blended and treated to meet specific requirements of the refinery's customers.

The "pool" idea posed quite a few problems in producing a basic gasoline from which anticipated customer specifications could be met. And Commerce's planning on this point went beyond the two existing customers. The company hopes eventually to have other customers for its products, and this possibility had to be considered in the planning.

In addition to a 30,000 b/d crude distillation unit, the Commerce refinery will have a Houdresid unit and a Houdry Iso-Plus reformer as its major process units.

The Houdresid catalytic cracking unit offers high yields of high-octane gasoline and light distillate fuels from reduced crudes. It can eliminate output of heavy residual fuel oil entirely if need be. The feed for its unit is residuum cuts ranging from crude tower bottoms to vacuum bottoms. Residua that are high in sulfur or nitrogen can be charged to the unit, giving the refiner flexibility in types of crude.

The Iso-Plus reformer is designed to process low-octane naphthas into F-1 clear gasoline in the range of 100 octane. The combination of Houdresid cracking and Iso-Plus reforming is de-

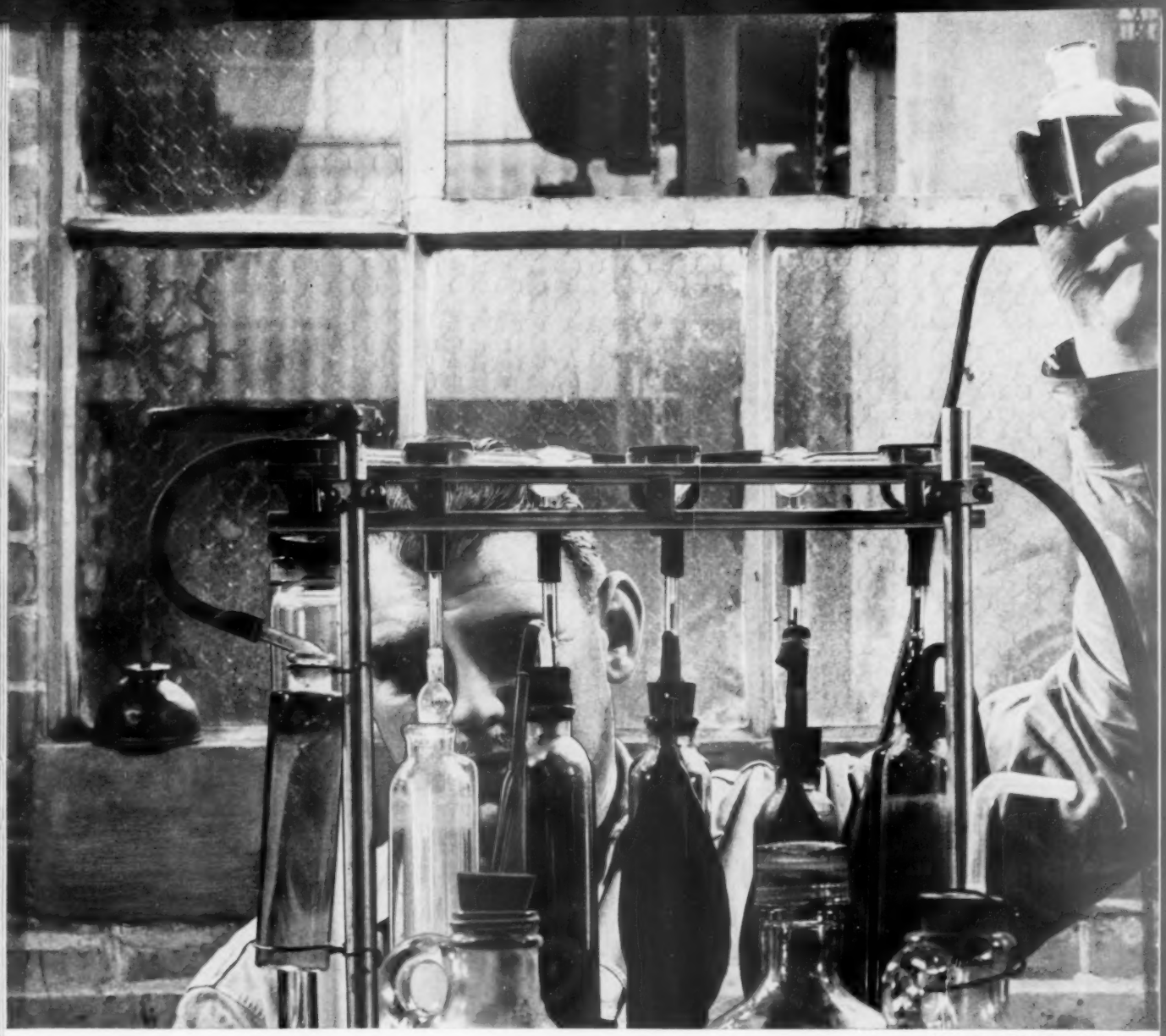


Photo courtesy Standard Oil Co., IN. J.

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with the LJUNGSTROM® AIR PREHEATER

With waste heat recovered and returned to the furnace in combustion air, the most modern heat-transfer systems can be operated at peak efficiency.

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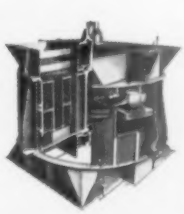
The Ljundstrom operates on the continuous regenerative counterflow principle. The heat transfer surfaces in the rotor act as heat accumulators. As the rotor revolves, the heat is transferred from the waste gases to the incoming cold air.



The Air Preheater Corporation 60 East 42nd Street, New York 17, N. Y.

signed to produce high yields of gasoline. "We've made various projections," Geller states, "based on various ways to meet the specifications of different customers, and we plan to get a gasoline yield of up to 65%."

The Commerce refinery will also have desulfurization, alkylation, and polymerization units. An API separator will be used for waste-water disposal. The Lummus Co. is the general contractor.

Based on the Middle East crude to be supplied by Commerce customers—and upon processing identical to that planned at Portsmouth—Houdry Process Corp. says the new plant can make a motor fuel with a rating of 99 road octane.

In a letter to Commerce last month, a Houdry official said, "We are pleased to advise that this fuel should show a road rating in excess of 99, when producing a motor fuel having a research octane number of 98 with 2cc TEL."

Houdry also commented, "This fuel would compare very favorably, on the basis of road versus research octane, with any on the market today. Usually, the fuels marketed today show a lower road octane than research."

The company's 20,000 b/d customer, says Geller, will be buying the 98-99-rated product, plus a regular grade with a 91 octane rating. "The 93 clear that we'll have in our pool," says Geller, "will be the basis of our pricing."

The arrangements with the two marketing customers permit Commerce to sell liquefied petroleum gases produced in the refinery, and refinery waste gases, to other buyers. Such sales could provide an important source of income to the company.

One oil company that markets LPG already has agreed to buy 1,200 b/d of propane. Commerce currently is negotiating with another oil company for sale of liquefied products. And Commerce says a chemical company is interested in buying its waste refinery gases for possible extraction of raw materials.

III. Problems of Location

The Commerce refinery site has a 3,000-ft. frontage on Narragansett Bay, along water that runs almost 50 ft. deep near the shoreline. Convenient rail and highways facilities also aid the location.

The company will build a U-shaped pier, with its "arms" extending into the bay. Geller says it will be big enough to accommodate two supertankers. A pipeline will carry the crude uphill to storage tanks past the refinery—about 200 ft. above sea-level, compared with 15 ft. at the shoreline. The crude will then be gravity-fed to the refinery. Another line will carry products down to barges.

At the opposite side of the property runs the Newport-Portsmouth highway. A spur of the New Haven R.R. cuts across the acreage, between the bay and highway. Geller says his company will use the railroad, at first, only for deliveries of catalyst to the plant. "We'll be able to build a siding for tank cars if we need one," he says, "but it's not in our plans just yet."

For decades this same site had attracted other refiners. But they couldn't get legal clearance. Back in the 30s, Colonial Beacon Oil Co., now a part of Esso Standard Oil Co., had held the property under option and then abandoned it. The last refiner to let go, just before Commerce took over, was Pan American Petroleum & Transport Co., part of the Standard Oil Co. (Ind.) organization.

The problem: Portsmouth is a town, not a city. Like all towns, it derives its right to govern from the state. And there was nothing in state law in those days saying a town could authorize the building of a refinery.

Over the years, though, pressure for such an enabling act had been building up. With an added push from Commerce, the law came through shortly after the company had obtained its options on the land.

The next step was to get refinery-permit procedure into town law. Commerce helped with this. A "model ordinance" outlined by API was adopted.

Commerce also capitalized on a community-relations opportunity. The company had the same "selling points" as its predecessors at the site: It would become the biggest taxpayer in a town of less than 7,000 inhabitants; it would afford job opportunities to local residents; its employees would require housing, goods, and services from townfolk; "feeder" industries, such as chemical plants, would likely follow.

Another reason for the town to spread the welcome mat, however, came when the state allocated money for a water line into Portsmouth from reservoirs and a water works in the Newport area, 3 mi. distant. The line wouldn't be built unless the state could get assurance of enough consumption to amortize this investment.

The company wanted the piped water to eliminate its well problems—higher fire insurance rates, low-pressure periods, and contamination possibilities. So when Commerce promised to buy water from the proposed new system to use as make-up water, it gained many friends.

IV. The New Company

Founders of the new firm are officials of Commerce Oil Corp., a Pennsylvania firm primarily in the exporting and oil brokerage business. This company, founded in 1946, is the exclusive exporter of Pure Oil Co. refinery excesses. It also sells other companies' lubes and greases—refinery surplus—under its own name.

The company also operates as a cargo wholesaler. It has affiliates in South America, England, Italy, and France.

Heading both Commerce Oil and Commerce Oil Refining is Harry R. Lewis, who owned Conewango Refining Co., at Warren, Pa., before it became a subsidiary of Sinclair Refining Co. in the 30s. Lewis remained as president of the subsidiary until just before World War II, when he formed Harry R. Lewis Co., an oil marketer. Shortly after, he entered the office of Defense Transportation as a dollar-a-year man.

Geller, an attorney, has been affiliated with oil companies for about 20 years. He joined Commerce as general counsel in 1949 and became treasurer a year later.

To finance the new firm, the group raised $6-million "internally." Another $24-million has been committed by banking interests, says Geller. The $30-million total is based on facilities planned definitely. If any of the company's current negotiations result in contracts, and the plant has to be enlarged, so will the amount of debentures.

Commerce is not listing its backers. Geller says the company should be able to get a fast tax-writeoff.

editorial index

For those readers who keep a back file of issues of Petroleum Week, we plan to publish, twice a year, an index to editorial contents. The first such index, covering the issues of Petroleum Week published from July to December, 1955, inclusive will be ready shortly after Mar. 1. Single copies will be available to subscribers without charge. Please address requests to Readers' Service Dept., Petroleum Week, 330 West 42nd Street, New York 36, New York.

What's New

IN REFINING

Capital investment in petrochemicals will double in the next five years, to a total of $8-billion, according to estimates by Henry G. McGrath, associate manager of business development for M. W. Kellogg Co.

Investments in petrochemical facilities at the end of 1955, totaling $4-billion, represented between 50% and 60% of the total assets of the entire chemical industry, he said. And petroleum-derived chemicals composed 25% of the total U. S. chemical output in 1955. McGrath made these estimates at the Delaware regional meeting of the American Chemical Society in Philadelphia last week.

Today nearly 3,000 chemical substances are produced from liquid and gaseous hydrocarbons. And new products from these sources are being added at the rate of 400 a year, according to McGrath.

•

Tide Water Associated Oil Co.'s refining properties at Bayonne, N. J., were sold last week to Bayonne Industries, Inc., and Texas Railway & Equipment Co. The 25,000 b/d refinery has been shut down for some time.

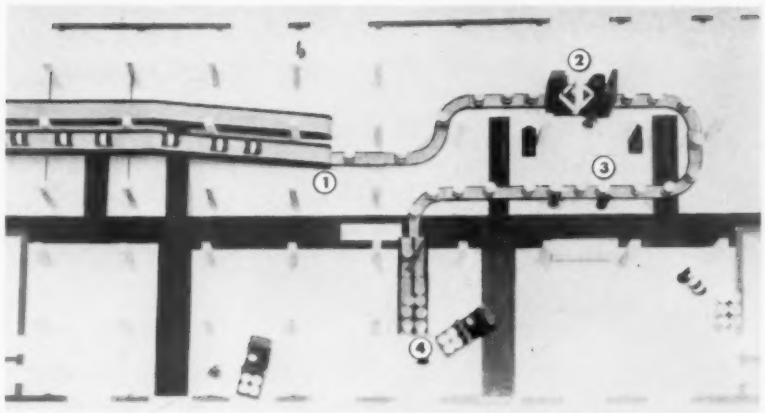
Texas Railway is dismantling the refining equipment. Bayonne Industries plans to operate the 236-acre tract as a storage terminal and warehouse. Harold L. Valentine, president, says that more than 75% of the 6.4-million bbl. of tankage has already been committed to several bailors for petroleum products and chemicals.

•

Shell Oil Co. will start construction in the spring of the second UOP Platformer at its Wood River (Ill.) refinery. The new unit will have a rated capacity of 20,000 b/d, slightly larger than the existing Platformer. A desulfurization unit also will be built at the refinery, to prepare feedstocks for reforming. Arthur G. McKee was awarded the construction contract.

•

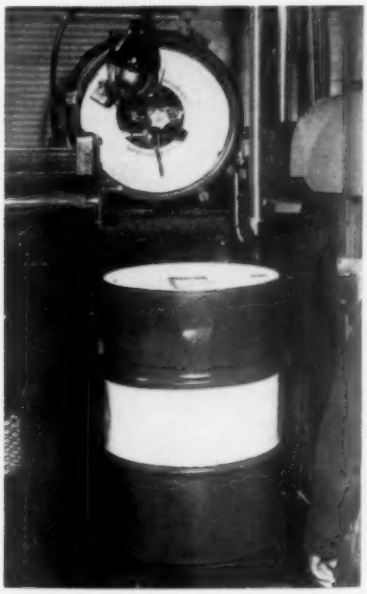
Sun Oil Co. will start construction in the spring on an addition to its research center at Marcus Hook, Pa. Building of the second section at its main research laboratory will make it possible for the company to consolidate all of its chemical research and development in one location.



SCHEMATIC LAYOUT shows how automatic drum-filling equipment helps, as . . .

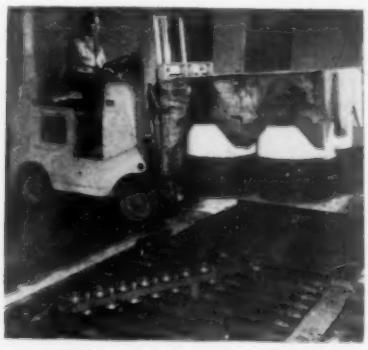
Sohio Speeds Lube Oil Output

1 New and reconditioned drums from warehouse move down conveyor belt and are tipped upright for filling.



2 Drum is filled on scale, which regulates filling lance (right) to allow exactly 54 gal. per drum.

3 Workman uses a power wrench for tightening and crimping bunghole caps on drums after filling operation.



4 Drums are grouped in fours by a deflector at the end of the belt, for pickup by fork-lift trucks.

NEW STATION at Clovis, N. M. is the first of 30 to be built in the state as . . .

Humble Expands in New Mexico

Humble Oil & Refining Co. will complete the first phase of its marketing expansion in New Mexico next week. That's when the company will open its third new service station in the state within five weeks—after making no move in New Mexico for 27 years.

Humble's newest station will be opened in Roswell, a city of 26,000 people in the southeast part of the state. The other new stations were opened in Albuquerque, on Feb. 11, and in Clovis, a town of 17,000 near the Texas border, on Jan. 28. Bulk plants are either now operating, or will be shortly, in each of the new cities.

Since 1929, the company has maintained a handful of stations in Lea County, near the Texas border, but it has never gone beyond the county line—at least not until now. Historically, the bulk of Humble's marketing has been done in Texas. But the new move in New Mexico will now spread the company's service station sales over a considerably larger area.

The new stations are the kickoff for Humble's plan to expand its New Mexico marketing operations "to cover the state adequately within the next two or three years."

The plan is to expand, but to do it gradually. At the moment, the company's strategy is definite only through 1956.

What will happen after that, according to company spokesmen, is still a matter of conjecture.

But by the end of this year, Humble hopes to have 30 stations in operation across New Mexico. Some are under construction right now, while others are waiting for lease clearances or site determinations.

Why the sudden interest in New Mexico? Humble officials are not giving specific reasons — only that they have confidence in the state's business potential.

Frank Watts, sales manager for the company, told a recent meeting in Albuquerque: "We plan to grow as New Mexico continues to grow in importance." And Vice-president Harry W. Ferguson told an Albuquerque audience that Humble was investing in New Mexico "because we think its a very healthy and dynamic business climate. We have great faith in its future growth."

The state's fast-increasing population is certainly a factor. New Mexico had a population gain of 10.5% between 1950 and 1954, alone. Population has increased 30% since 1940. And more people mean more retail sales: The state's retail sales rose a whopping 67.7% between 1948 and 1953. Humble could hardly have asked for a faster growing market.

Here's how Humble's expanded New Mexico marketing will function:

• Supply—Humble will buy gasoline manufactured according to its own specifications from an independent New Mexico refinery. Additives will be shipped from Humble's Baytown refinery to the independent, which Humble prefers to leave unidentified.

Humble had been kept from expanding its New Mexico operations in the past by lack of what it considered an adequate source of supply. Company officials say that local refineries could not meet Humble's specifications. But the new refinery has been judged able to meet the specifications, so Humble feels it is "ready to go."

• Dealers—Some of the stations will be lessee-operated; the rest will be on commission-agent or salary basis. The bulk plants will be salary-operated.

The first group of wholesale and retail employees were trained at the company's training station in Abiline, Tex. Dealer Arval Mitchell, for instance, who operates the Clovis station, spent five months at the training center. But future employees will be trained at the new Albuquerque station. This station has three service bays, one of which will serve as a classroom. It will eventually supply dealers, agents and wholesale employees for the rest of the state.

• Pricing—Prices prevailing in the community will be posted at company operated stations, while lessee stations will set prices according to their individual situations. Price cutting will be avoided whenever possible.

In general, Humble will run its New Mexico stations in much the same way as its Texas stations. "We know only one way to deal a deck of cards," Watts told PETROLEUM WEEK, "and that's off the top. We know only one way to break in clinches, and that's clean."

Humble went about "tilling the New Mexico soil" systematically. It used a diversified five-month promotion campaign to sell itself in the 'new territory.'

Last fall, the company started sponsoring football-game broadcasts and telecasts in the El Paso-New Mexico area. The radio and TV commercials were institutional in character.

Then, late in December, Humble extended the institutional ad campaign to newspapers—buying space in Albuquerque, Clovis, and Roswell papers on a once-a-week basis. The first ad, headlined "a letter" to the citizens of the city, told readers that the company would soon have a serv-

ice station in each town, and that the company hoped to prove itself a good neighbor.

Subsequent ads told more about the company, and the people in it. As the ads reached their climax, Humble scheduled "get-acquainted" luncheons in each of the new-station cities, and invited civic leaders and business men. Company representatives told the luncheon guests of Humble's attitudes and policies on various matters.

The ads gradually shifted to a merchandizing approach, told of the company's services, and invited the public to the service station openings. Now, periodic product advertising is planned to keep Humble in the public's eye.

What's New / IN MARKETING

NOJC Proposes New Tax Collection System

The National Oil Jobbers Council will ask suppliers to go along with a proposed system of Federal excise tax collection which, the council feels, would free $100-million a year that is tied up by present oil industry tax-payment practices.

Under the plan, taxes on petroleum products delivered to jobbers would not be paid until shortly before the suppliers made their payments to the federal government. Federal taxes are now collectable from suppliers 30 days after the month of delivery to jobbers. For instance, whether a supplier delivers fuel to a jobber Mar. 1 or Mar. 31, tax payment is due the government Apr. 30.

The proposed system would give jobbers until 10 days before this due date to pay the tax to suppliers—in other words, 20 to 50 days after they receive (and pay for) the products.

•

'Discrimination' Hit

The Montana Trade Commission, continuing its investigation of alleged gasoline price fixing by suppliers, has ruled that if major oil companies reduce prices in one area, they must reduce them throughout the state. The commission cited a state law which makes it a misdemeanor for oil companies to "discriminate" pricewise between one part of Montana and another.

The commission is probing price reductions made by Phillips Petroleum Co., Carter Oil Co., and Continental Oil Co. at Great Falls last fall. It has charged that dealers in that area were forced to take reductions in their profit margins in order to sell at the lower rates ordered by suppliers. John Vance, commission secretary-counsel, says that at least one Great Falls dealer was forced to give up his lease because of reduced profits.

•

Sinclair Refining Co. is expanding its radio-commercial safe-driving campaign (PW—Jan.27'56,p36) to include all of its 36-state marketing territory. The company decided on the expansion after running the commercials on a trial basis over New York airwaves.

The promotion consists of a single 12-word announcement: "Driving today? Remember to drive with care and buy Sinclair Power-X gasoline." Sinclair officials feel that the slogan develops good will toward the company—and keeps the Sinclair brand name in drivers' minds.

•

Petroleum jobbers will perform more economic and useful functions in the oil industry in the years ahead, according to two high-ranking supplier spokesmen. J. A. Lentz, administrative assistant to Continental Oil Co.'s Rocky Mountain regional general manager, and W. W. Keeler, vice-president of Phillips Petroleum Co., made this prediction last week in addresses to the Intermountain Oil Jobbers Assn.

Lentz told the jobbers that "the job of performing all the marketing functions required today is too enormous for major companies." Keeler emphasized the important position the jobber has in the community, and stressed the need for solving jobber-supplier problems within the industry itself.

•

American Oil Co.'s started its first retail marketing outside the Atlantic Seaboard last week when it opened the first of 15 planned stations in the Texas City area. Marketing will be directed by American Oil Co. (Tex.), established last year, and products will come from the firm's Texas City refinery, formerly Pan-American Refining Corp.

The company has also built a bulk plant adjacent to the Texas City refinery, which is not more than 35 mi. from any of the stations under construction. Amoco officials call the company's Texas marketing area "a small corner of the state," and have declined to comment on speculation that the company is planning a statewide retailing effort.

But the move into Texas—whether or not it eventually becomes a statewide effort—is part of a larger expansion program which American is pushing (PW—Jan.6'56,p36).

•

The Justice Dept. has joined the Senate small business subcommittee in investigating New Jersey gasoline price wars. The purpose of the department's probe is to determine whether any antitrust laws have been violated in the wars which have disrupted the Jersey market for several years.

The Senate subcommittee, which is in the homestretch of its investigation, last week heard testimony of Federal Trade Commission witnesses. John W. Gwynne, FTC chairman, offered to make a nationwide investigation of gasoline sales practices—if Congress provides the money.

•

Three major industries in the Portland (Ore.) area will change over from oil to natural gas in the near future. Portland Gas & Coke Co. has announced that five-year contracts have been reached with Oregon Portland Cement Co., Oswego; Publishers Paper Co., Oregon City; and Owens-Illinois Container Corp., Portland. The agreements are said to represent nearly three-fourths of the utility's expanded industrial sales goal for 1956 (PW—Jan.13'56,p32).

The natural gas will be delivered on an interruptible basis, allowing the company to cut off service at times of peak demand. The plants will maintain standby equipment for such cutoffs.

•

The Kansas Legislature has reduced the state tax on LPG used in cars and trucks. A bill just passed lowers the state bite on butane and propane for use in motor transportation from 7¢ a gal. to 5¢ a gal. The reduction will go into effect after Mar. 1.

NEW OIL-ORE HAULER, Sinclair Petrolore, is one of two new ways of getting . . .

Two-Way Pay for Tankers

Two tanker operators are about to tackle the problem of "deadhead" time—in separate fashion—in an effort to improve profits and strengthen their competitive positions.

Major U. S. flag operators figure the "break-even" point for hauls from the Gulf of Mexico to the East Coast north of Cape Hatteras is a rate of $2.85 per ton for crude, or "dirty," cargo. This is the last rate posted by the U. S. Maritime Commission shortly after World War II.

Some independents figure they can break even with a rate 15% less than this old USMC posting. But last year's averages show most operators—both majors and independents—were taking substantially less most of the time. Better-than-USMC rates prevailed in only three months (they ran as high as double the base posting), leaving the yearly average for all operators at USMC -1.5%.

The long haul from the Persian Gulf to the East Coast, because of the predominance of lower-rate foreign operators, was even farther from the "ideal"—the old USMC posting of $13.05 per ton.

No matter which way rates move, they are assumed to cover a one-way trip for the cargo—but a two-way trip for the vessel. It's this empty return trip, or "deadhead" time, that really plays hob with the operator's budget. If he could return to his starting point with another profitable cargo, instead of costly ballast, he could count on something—besides just a few high-rate months of oil-hauling—to make up for the depressed-rate periods.

Pan Atlantic Steamship Corp., starting in April, will carry dry-cargo trailers "piggyback" on the decks of modified T2-type tankers. Full tanks and empty trailers will go from Houston to New York—full trailers and empty tanks in the reverse direction.

Pan Atlantic officials announced the new service this week. They say it will be the first commercial application of a World War II emergency measure, when tanks and planes were carried overseas on tanker decks.

Two tankers have been modified for the first phase of the operation. The deck of each tanker has been fitted to accommodate 58 trailers, each 33 ft. long. The company has already built 250 trailers that can be detached from chassis and wheels and locked to the decks like huge metal containers. Cranes will load and unload them.

Full trailer loads will be assembled and sealed at the shipper's plant, to be delivered intact to the consignee. Less-than-trailer loads will be assembled near Pan Atlantic terminals. Dry-cargo capacity of a deck-load of trailers will be 1,160 tons.

Later, Pan Atlantic will build seven tankers with special ramps, so that the trailers may be driven aboard and transported ready-to-roll. Keels for the new vessels will be laid this summer.

Pan Atlantic says the southbound trip—with oil tanks empty—will be profitable even if only 85% of a tanker's trailer capacity is used.

"Intensive tests," say Pan Atlantic officials, show that the operation will be profitable both to the company and to shippers. The company figures shippers can save an average of 30¢ per 100 lb. Over rail or road-transfer shipments. In addition, says Pan Atlantic, the water "piggyback" method minimizes special packaging requirements, cuts down on the number of transfer—and possible pilferage—points, yet permits delivery at the same speed as rail or road-transfer operations (delivery in Houston on the morning of the sixth day after sailing).

Meanwhile, Universe Tankships, Inc., outlined a round-the-world oil-ore schedule for its 56,000-ton Sinclair Petrolore, as the new vessel arrived this week with a record cargo of Kuwait crude. The combination carrier, launched in Japan last July, arrived in Delaware Bay on her maiden American voyage.

She carried 386,742 bbl. of crude from the Marcus Hook (Pa.) refinery of Sinclair Refining Co. After lightering about 120,000 bbl. in the bay (because of her loaded draft of 40 ft. and the Delaware River's maximum dredged depth of 35 ft.), she unloaded the rest directly, at a maximum rate of 29,600 bbl. per hour. She'll return to Kuwait empty, via the Suez Canal (loaded she had to come around the Cape of Good Hope). But eventually, says Universe Tankships, here is the schedule she'll follow:

Haul oil from Kuwait to Marcus Hook; run empty down to Venezuela; carry ore to Japan; run empty from there to Kuwait. Four such trips can be made per year, says Universe. When the "deadhead" time is discounted further, because part of it

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will be utilized for compartment cleaning in transit, this schedule comes close to being a tanker operator's dream.

The Sinclair Petrolore has 65 cargo compartments for oil, but only the 26 center-line holds will carry ore. A cargo conveying belt, 60 ft. wide and with a speed of 600 ft. per min., runs for 485 ft. under the ore-carrying compartments. A 205-ft. self-unloader boom hovers over the deck. The vessel can discharge ore at the rate of 4,000 long tons per hour.

Other statistics: Length, 789 ft.; beam, 106 ft.; depth, 54 ft.; speed, 15 knots; total crude-carrying capacity, 447,600 bbl. (44,230 for bunkering); ore-carrying capacity, 67,300 tons.

Keeping a tanker in two-way payloads can benefit oil companies, too. Some own their own tonnage. Some also charter tankers on long-term deals in which the oil company controls the routing.

And in either case, they could get the direct savings from elimination of "deadhead" time. International oil companies, in fact, are planning to work trips from the Caribbean to Europe into the schedules they now maintain between the Persian Gulf and the U.S. East Coast (PW—Jan.27'56,p39).

What's New / IN TRANSPORTATION

Owners of Southern Pacific Pipe Lines, Inc., are already talking about expanding the new products trunk. Frank E. Kalbaugh, president, told members of the Los Angeles Press Club last week the company has acquired land for installing booster stations at Yuma, Ariz., and at Gage, N. M.

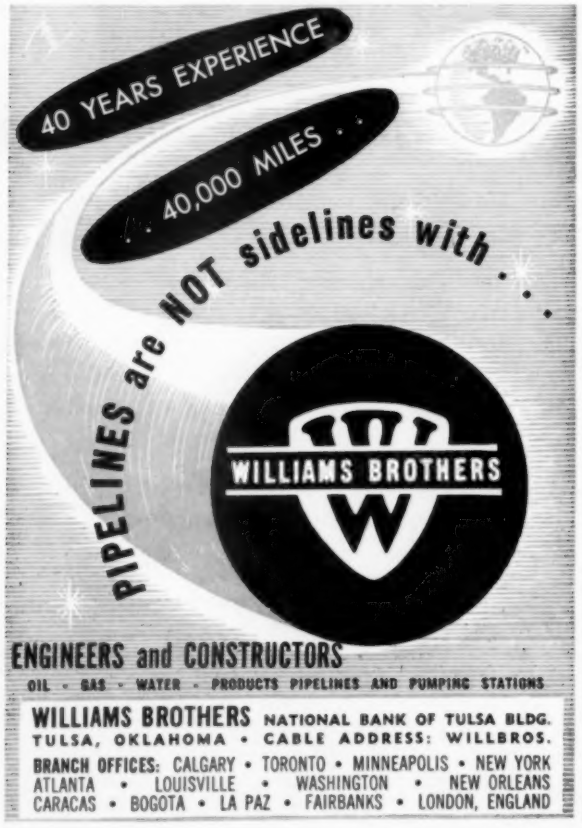
Single stations could possibly boost capacity of the line to 21,700 b/d on the eastern half, from El Paso to Phoenix, and to 52,000 b/d on the western half, from Los Angeles to Phoenix.

The outlook for early expansion is based on the probability that the line will show a profit at the end of its first year of operations, according to Kalbaugh. He says the eastern half is already operating at 85% if its present 13,600 b/d capacity. This section was opened early in January (PW—Jan. 13'55,p30). The western half, completed less than a month ago, is now operating at 80% of its 38,000 b/d capacity. And all prospective users have not yet arranged their own terminal and transportation facilities to fit the new line into their distribution patterns.

Meanwhile, the company has signed up Gleason Romans Pipe Line Patrol Co., of Tulsa, to keep an aerial eye on the 846-mi. system. The new contract, announced last week, gives the pioneer aerial pipeline patrol firm its 15th current client. Gleason Romans was celebrating its 11th birthday when the contract was announced.

•

A school of pipeline technology will open this fall, under joint sponsorship of the University of Texas and the central committee on pipeline transportation of the American Petroleum Institute. The API committee approved the project last week. A curriculum committee will work out the details. No starting date has been set. But the school is expected to be located somewhere along the Gulf coast's "pipeline alley," probably in Houston or Corpus Christi.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Your stake in

VENEZUELAN OIL CONCESSIONS

Complete text of Venezuela's recent announcement on new oil concessions is available to readers of PETROLEUM WEEK. No obligation. Write to

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The Market Place

AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All Prices as of February 20

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal., except dollars per bbl. where $ is shown)

Western Hemisphere

U. S. Gulf Coast, cargoes
- Gasoline, 97 oct prem. 13-13.5
- Gasoline, 90 oct reg. 11-11.5
- Kerosine 9.5-9.75
- Heating oil, No. 2 9-9.5
- Gas oil, 48-52 d.i. 9.125-9.375
- Fuel oil, bunker "C" $2.10-2.15

Caribbean, cargoes
- Avgas, Grade 100/130 16.75
- Gasoline, 93 oct research prem. 11.5
- Gasoline, 87 oct research reg. 10.5
- Gasoline, 79 oct research 9.75
- Gasoline, 70-72 oct motor method 9.5
- Kerosine 9.5
- Heating oil, No. 2 9
- Gas oil, 48-52 d.i. 9.125
- Fuel oil, bunker "C" $2.10

New York Harbor, barges
- Gasoline, 89 oct reg. 12.25
- Kerosine 10.85
- Heating oil, No. 2 10.35
- Fuel oil, No. 6 $2.65

Okla.-Group 3, northern shpt, bulk
- Gasoline, 86 oct reg. 11-11.5
- Kerosine 10.25-10.5
- Heating oil, No. 2 9.25-9.5
- **Fuel oil, No. 6 $2.00-2.25**

Chicago, bulk
- Gasoline, 86 oct reg. 12
- **Heating oil, No. 2 10.6-11.1**
- Fuel oil, No. 6, high sulfur 7.9-8.5

Los Angeles, rack
- **Gasoline, 84 oct reg. 12.3-13.15**
- Stove dist., PS 100 9.25-10
- Diesel fuel, PS 200 9-9.3
- **Light fuel, PS 300 $2.60**
- **Heavy fuel, PS 400 $2.10**

Natural Gasoline, Grade 26-70
- FOB Group 3 5.5
- **FOB Breckenridge, Tex. 4.5-5**

Penna Lubes
- Bright stock, 25 p.t. 23-24
- 200 vis. neutral, 25 p.t. 20-21

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent 95 v.i. 23-25
- Neutral, solvent, 200-210 vis. 18.75-20.75

Gulf Coast Lubes
- Bright stock, solvent, 95 v.i. 25
- Neutral, solvent, 200 vis. 21.5

Eastern Hemisphere

Singapore, cargoes
- Avgas, Grade 100/300 18.375
- Gasoline, 79 oct research 10.5
- Gasoline, 70-72 oct motor method 10.25
- Kerosine 10.125
- Gas oil, 48 d.i. minimum 9.75
- Fuel oil, light $3.30

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9 $2.82
- North Dakota, 36.0-36.9 2.82
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9 2.95
  - Gulf Coast, upper & lower, 26.0-26.9 2.82
  - West Texas sweet, 36.0-36.9 2.82
  - West Texas-New Mexico intermediate, 36.0-36.9 2.75
  - West Texas-New Mexico sour, 32.0-32.9 2.61
  - East Texas, flat price 2.90
  - Mirando, 28.0-28.9 2.96
- Illinois Basin, flat price 3.00
- Penna. Grade, Bradford dist., flat price 4.00
- California, Signal Hill, 21.0-21.9 2.41†
- North Louisiana-Arkansas, 36.0-36.9 2.82
- Wyoming sweet, 36.0-36.9 2.82
- Wyoming sour, 32.0-32.9 2.48

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.) D-2, D-3, L.C. 2.54
- Leduc-Woodbend (Alta.) D-2, D-3 2.60
- Redwater (Alta.) D-3 2.49
- Daily-Mississippian (Man.) 2.34
- Smiley-Viking (Sask.) 2.26

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 48.0-48.9, Tucupido 3.40
- San Joaquin, 41.0-41.9, Puerto la Cruz 3.04
- Oficina, 35.0-35.9, Puerto la Cruz 2.80
- Tia Juana Medium, 26.5-26.9, Amuay 2.30*
- Bachaquero, 16.5-16.9, Amuay, Las Piedras 1.90**
- West Tarra, 40.0-40.9, Cardon 3.05
- Lagunillas Heavy, Amuay, Cardon, Las Piedras, flat price 2.05

Differential per ½ deg. grav.: (*) 2.5¢ bbl. (**) 3.5¢ bbl.
†Differential per deg. of grav. varies.

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabian, 36.0-36.9, Ras Tanura 1.97
- Basrah, 32.0-32.9, Fao 1.79
- Iranian, 34.0-34.9, Bandar Mashur 1.91
- Iranian, 34.0-34.9, Abadan 1.86
- Iraq, 36.0-36.9, Fao 1.92
- Kuwait, 31.0-31.9, Mina-al-Ahmadi 1.72
- Qatar, 39.0-39.9, Umm Said 2.06

Middle East, Eastern Mediterranean
- Arabian, 36.0-36.9, Sidon 2.46
- Iraq, 36.0-36.9, Tripoli, Banias 2.46-2.49

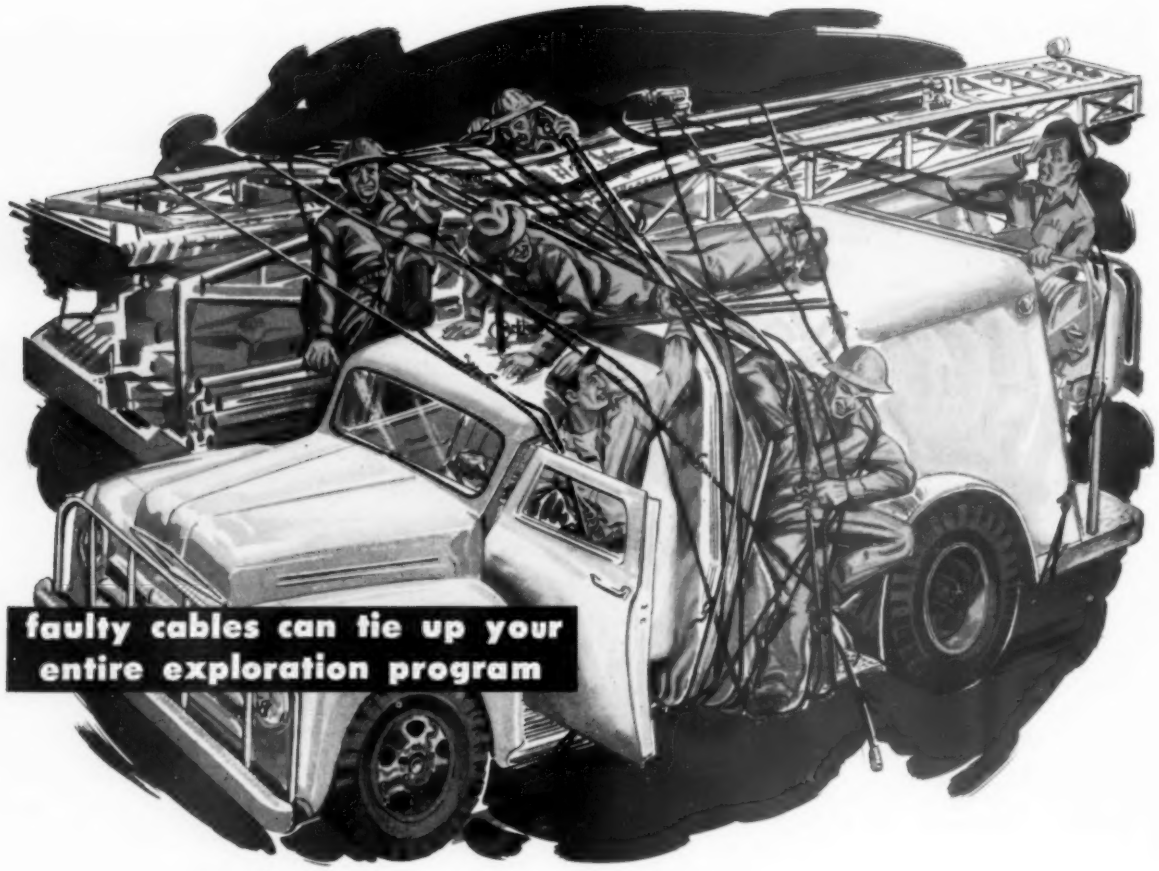
Far East (Cargoes, FOB Lutong, Sarawak)
- Seria Light, 37-38 2.60

KEY TANKER RATES

(Last paid, per long ton, single voyage)

- U. S. Gulf-New York, clean (USMC +25%) $3.56
- **U. S. Gulf-New York, dirty (USMC flat) $2.85**
- **NWI-USNH, dirty (USMC —30%) $1.89**
- **NWI-UK/Continent, dirty (MOT flat) 32/6***
- Persian Gulf-UK/Cont., dirty (Scale +40%) 73/3*
- **Pers. Gulf-USNH, dirty (USMC —12½%) $11.11**

**Sterling*



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The Market Trend

For Foreign Crude: New Markets Galore

Markets for foreign crudes continue to expand.

Crudes from Canada started flowing to new Michigan buyers last week (page 13). Bay City Refining Corp., at Bay City, started taking 3,000 b/d of Alberta crudes. At Alma, Leonard Refineries, Inc., is ready to receive a similar amount from across the border. About Mar. 15, Osceola Oil Refining Co. will start on a term purchase contract for 1,000 b/d of Canadian oil.

The Mexicans have an eye out for new crude business, too. It's not official yet, but word is getting around that a 10,000 b/d Mexican sale has been arranged for the U. S. East Coast. The oil will be used for residual production at a to-be-erected topping plant.

Venezuelan producers increasingly are quoting their wares in world markets. Last week, a Standard of California subsidiary started making public quotations for 10-gravity asphaltic Boscan. The new prices are $1.52 a bbl., f.o.b. Bajo Grande in Lake Maracaibo, and $1.55 for the same oil at Punto Fijo, outside the bar.

Better Deal For Jobbers: Position may not be everything in life. But it sure helps if you're a gasoline jobber in the path of Phillips Petroleum's "March to Maine." Phillips' competitors who supply in Virginia comment wryly that if they didn't give their jobbers a 3¢ margin, Phillips would. Result: The higher trend in jobber gasoline margins has moved northward to the Maryland line. Above that, margins mostly range around 2.5¢.

Tankers: Nothing calls a trend quite so clearly as what charterers think about the long-term tonnage market. This week, a U. S. major put the word out that he's interested in taking a vessel on a 20-year timecharter, which compares with average term charters of five to seven years.

For one thing, this is an indication of big demand for ships ahead. Also, it looks as if marketers will have to budget their expenditures carefully. Building a tanker today requires about $2-million down payment. But a 20-year timecharter is almost the same as buying a ship on the installment plan, $1 down.

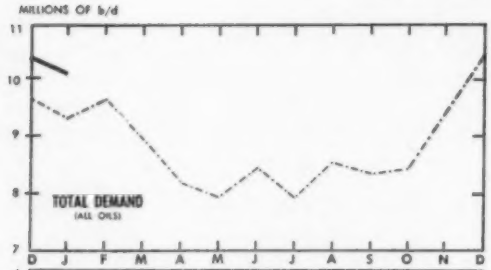
Gasoline: Only one Gulf Coast refiner right now is pressed to sell spot cargoes. But traders say that, unless refinery runs are cut back, there soon will be more.

Distillates: Heat's off, as far as spot buying of kerosine and No. 2 are concerned. At the Gulf, demand has tapered off sharply. Much the same is happening in the Midwest, and along the East Coast. Prices continue firm, however.

Resid: Be on the look-out for a few cargos of bunker "C" fuel to move from the Gulf-Caribbean to the West Coast. California buyers are in the market for heavy fuel in the Southwest. Up to now, high freight rates have worked against closings. Now, spot tanker rates appear headed downward.

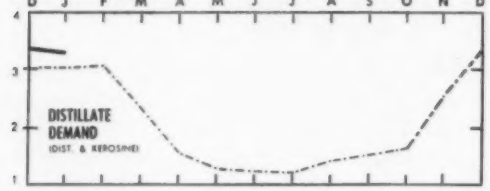
PETROLEUM WEEK'S

Fingertip Figures



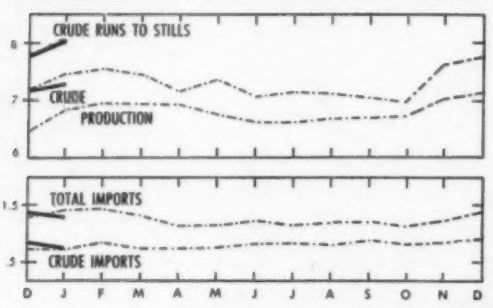
TOTAL DEMAND

Latest 4-week Average	*
Year ago	9.575



DISTILLATE DEMAND

Latest 4-week average	*
Year ago	3.252



RUN TO STILLS

Latest week	*
Previous week	8.016
Year ago	7.511

CRUDE PRODUCTION

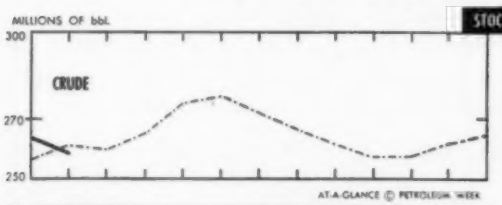
Latest week	7.115
Previous week	7.045
Year ago	6.767

TOTAL IMPORTS

Latest week	*
Previous week	1.369
Year ago	1.271

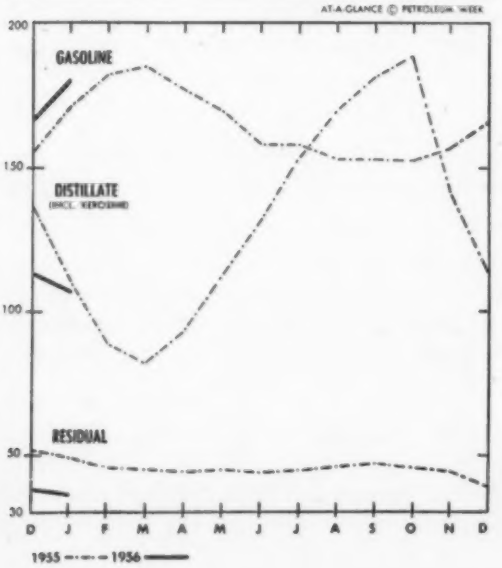
CRUDE IMPORTS

Latest week	*
Previous week	.820
Year ago	.682



CRUDE STOCKS

Week ended 2-11	253.5
Previous week	258.2
Year ago	260.9



GASOLINE

Latest week	*
Previous week	187.6
Year ago	176.9

DISTILLATES

Latest week	*
Previous week	100.7
Year ago	91.2

RESIDUAL

Latest week	*
Previous week	37.7
Year ago	46.7

THE TEXAS RAILROAD COMMISSION indicated last week that it will try to gear production allowables more closely to seasonal variations in demand. This came in its action to cut the March allowable to 3,366,238 b/d, which is 16,838 b/d below the mid-February figure.

A cut of this amount is not large, and it will be more than offset by anticipated production from new wells during the month. It is significant, though, that the commission recognized the need for a cutback—or at least no increase in the beginning-of-the-month allowable—at the time of the year when petroleum demand turns downward (PW—Feb.17'56,p52).

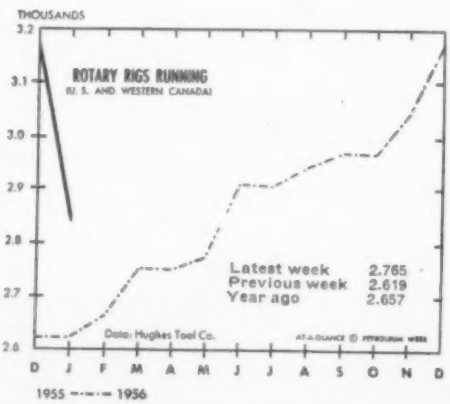
One principal reason for oversupply in the low-demand summer months in recent years has been that producers in all states were permitted to continue their high winter producing rates too far into the spring.

Last year, for example, Texas increased its allowables in February and March. The first cutback of the year didn't come until April. The beginning April allowable in 1955 was 71,000 b/d higher than the figure at the start of January. But total demand in April was 1.1-million b/d under January—a normal seasonal movement.

Texas, the leading producing state, is in the best position to set an example for other proration states to prevent economic waste through oversupply.

* * *

*Due to the Feb. 22 holiday, most figures for the Feb. 17 week were unavailable at press time. Crude oil production estimated by PETROLEUM WEEK.



DEPT/Personals

PHILIP G. REYNOLDS, manager of the Gulf Coast division of Rimrock Tidelands, Inc., has also been named general superintendent of the company's foreign operations. He left last week to supervise Rimrock's production interests in Israel.

EARL GRIFFIN has been promoted to general superintendent of Phillips Petroleum Co.'s production department. Griffin joined the Phillips organization in 1930, and later served as Houston division production superintendent. In 1954, he was named manager of the company's southern area, at Bartlesville. **F. F. Lovering** succeeds Griffin in that post. **M. R. Hayes** will superintend the company's newly formed western division.

JAMES W. DOWDEN will be Lion Oil Co.'s Denver district geologist. He was formerly a company geologist at Portland.

J. W. DOMES, vice-president of Bethel Corp., has been elected to the board of directors. He joined Bethel in 1941, and in 1951 was named vice-president in charge of the corporation's industrial division.

J. HOWARD MARSHALL, vice-president and director of Signal Oil & Gas Co., has been elected a director of the Fund for the Republic.

JACKSON C. HINDS, JR., has been appointed vice-president and general counsel for Houston Natural Gas Corp. Hinds was formerly associated with a Houston law firm.

TREVOR C. LEWIS has been named assistant treasurer of Esso Standard Oil Co. He was formerly office manager of Esso's treasurer's department.

JACK S. GRAY, president of Grayco Constructors, Inc., Austin, has been named a director of the Pipeline Contractors Assn.

Y. L. GRANT will be in charge of the Rising Star gathering system for Scurlock Oil Co., at Rising Star, Tex. He succeeds **John W. Bishop**, who has been transferred to Burkburnett.

R. J. EUBANK has been named assistant superintendent of Sinclair Pipe Line Co.'s Houston operations district. He was formerly Sinclair's chief clerk in the same city.

LOUIS W. LERDA will manage Esso Standard Oil Co.'s employee communications division. He succeeds **Harry D. Kolb**, who has been assigned to research projects in employee relations.

FREDERICK F. (Ding) TRACY has been named technical representative for Internal Pipeline Maintenance Co., Odessa. Tracy had worked for Gulf Oil Corp. before joining Internal.

ROGER NORTHUP has been named vice-president of United Supply & Mfg. Co. Northup will be in charge of the company's Texas-New Mexico operations, and will make his headquarters at Dallas.

H. D. (Dean) MURRAY has resigned as production superintendent for Hanley Co., West Texas producing company.

R. E. (Skeet) BERRY and **GEORGE W. WILLSON** have established Monarch Pump & Supply, Inc., a new distribution company in Odessa. The new company will be affiliated with Monarch Engineering Corp., of Los Angeles.

BUCK JORDAN will manage the New Mexico branch of Sivalls Tanks, Inc., at Hobbs, Tex. **Ed Moses** has been transferred from Odessa to Hobbs as the company's sales and service representative.

THOMAS G. WISE has been named president of H. Earl Clack, Inc., a subsidiary of Husky Oil Co. He recently resigned as president of McKale's Corp., of Seattle.

C. E. SKINNER will coordinate Gulf Co.'s marketing activities. Skinner joined Gulf in 1931 as a marketing clerk, and in 1954 was appointed director of business analysis and market research for the company's domestic marketing department. For the past year, he has been on special assignments for Gulf in Europe and South America. He replaces **Robert A. Hunter**, who has been named Gulf's general manager of retail and jobber sales.

A. H. HAYES will be senior assistant manager of the Whiting refinery of Standard Oil Co. (Ind.). He was formerly general superintendent there. **Dr. F. H. Blunck** will manage the unit operations division of Standard's Chicago general office manufacturing department. **L. H. Butterworth** has been named assistant manager of the company's Wood River (Ill.) refinery. He was formerly general superintendent of Standard's Casper (Wyo.) refinery.

C. C. REESE will become an independent operator at Shreveport. He recently resigned as Gulf Refining Co.'s zone landman in the same city. Reese had served with Gulf over 25 years.

J. M. SHRUM has been named coordinator of product supply for Gulf Oil Corp.'s domestic marketing department. He was formerly supervisor of packaged product supply in the same department.

C. D. CARLSON will coordinate Continental Oil Co.'s national account sales, at Chicago. **Dale Chapman** will succeed Carlson as Conoco's Salt Lake City marketing division manager. **E. C. Fritch** has been named assistant division manager at Salt Lake City. He succeeds **Robert J. Saville**, who recently transferred to Houston as assistant manager of sales training.

DR. WILLIAM P. HETTINGER, JR., will direct the catalysis division of Sinclair Research Laboratories, Inc., at Harvey, Ill. He joined Sin-

clair in 1950 as research chemist in the catalysis division, and later became the division's organic chemistry section leader.

ROBERT M. CONDON has been district geologist at Corpus Christi for Union Oil Co. of California. He succeeds **W. W. Henry,** who is now district geologist for Union in New Orleans.

JOHN H. DOUMA will manage joint operations for the production department of Sunray Mid-Continent Oil Co., Tulsa. **M. S. (Steve) Patton, Jr.,** will manage engineering for the same department. Other promotions include **Frank C. Fogler, Jr.,** named assistant manager of engineering, and **M. Buford Penn,** named chief unitization engineer in the joint operations division.

PAUL R. STOVEY will manage the new office of Lynes, Inc., at Great Bend, Kan., and **Malcolm G. Coone** will manage a new office at Wichita Falls. Stovey has been sales engineer for Lynes in Midland since 1952. Coone was transferred from Oklahoma City. Lynes, Inc., is a manufacturer of oil well treating and testing tools.

ERNEST K. DODSON has joined Cosden Petroleum Corp. as land manager in charge of the company's new office in Midland. In recent years, he has been affiliated with J. C. Barnes, Midland independent.

C. J. RAMSBURG, JR., will manage tubular sales for National Supply Co. Ramsburg joined the company in 1937, and in 1950 was named sales manager for welded products. He succeeds **Edwin A. Booth,** who recently resigned.

DAVID W. DOLSON will manage the crude oil procurement and sales department of Leonard Crude Oil Co., Mt. Pleasant, Mich. Leonard Crude Oil Co. is a subsidiary of Leonard Refineries, Inc. Dolson formerly was vice-president in charge of crude oil procurement for Mid-West Refineries, Inc. **William (Bill) Elliot,** who has served five years as field representative for the Simrall division, has been appointed assistant to Dolson and chief scout. **John C. Horning,** former assistant manager of Leonard Pipe Line Co., has been named manager of field operations. He will be assisted by **Gerald Watson,** former acting superintendent and engineer for the Simrall division.

ELWOOD G. GLASS, JR., has been named coordinator of recruitment on a company-wide basis for Standard Oil Co. (Ohio), at Cleveland. For the past 16 years he has held various positions in the manufacturing department.

ANDRE MARIN, formerly with Western Gulf Oil Co., will open consulting offices in the field of petroleum geology in Bakersfield, Calif.

RALPH G. GRANT will manage the Arklatex district of Lane Wells Co., with headquarters in Shreveport. He has been sales engineer in New Orleans, Southern Louisiana district, since 1954. Lane Wells Co. is one of the Dresser Industries.

GERALD P. FOSTER has been appointed chief of the services section, systems division, of Consolidated Electrodynamics Corp., Pasadena. In the newly created post, he will be responsible for the division's engineering services and administrative and fiscal planning.

WILLIAM R. LAVERY will supervise sales for Tuloma Gas Products Co., Tulsa marketer of LP-Gas products. Lavery has been with Tuloma since it was formed in 1954. He was formerly a member of Stanolind Oil & Gas Co.'s LP-Gas sales section.

J. J. MIKITA will manage sales for the new additives group of E. I. du Pont de Nemours & Co.'s petroleum chemicals division. New regional sales managers for the additives are: **W. E. Bettoney,** eastern region; **N. D. Lawson,** central division; **J. B. Main,** western division.

EDWARD A. DUNN will manage the New Orleans district office of Continental Supply Co. He succeeds **William G. Sharp,** who is now manager of the company's Venezuelan operations.

I. L. (Steve) SCHOOLER will be chief clerk of the Morgan City (La.) drilling department for Kerr-McGee Oil Industries, Inc. **George Ruster** succeeds Schooler as materials control chief at Oklahoma City.

DR. F. G. BAPTISTA has been named assistant manager of Creole Petroleum Corp.'s production department at Caracas. **D. C. Meyer** will be manager of the company's geological department in the same city. He succeeds **G. C. Holcomb,** who has been named manager of the geological department.

L. R. KAMPERMAN has been appointed administrative head of the marketing department for Leonard

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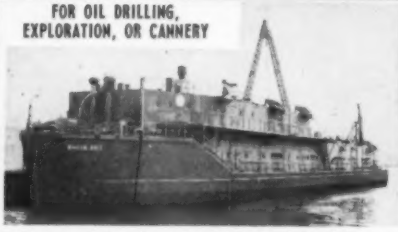

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Refineries Inc. The company's new general sales managers are: **R. J. Oosdyke** Mid-West Refineries division; **A. Paul Elliott,** Leonard Refineries division; **W. E. Randolph,** Roosevelt Oil & Refining division; and **Stanley P. Martin,** industrial division.

C. M. MOORE, JR., has been elected vice-president of Geophysical Service Inc. He will direct GSI's petroleum exploration in the Eastern Hemisphere. Moore was formerly manager of the company's Canadian operations. **R. C. Dunlap,** vice-president and director of U.S. operations, will also assume the direction of the company's interests.

HOWARD F. THOMPSON has been named resident engineer for Sinclair Refining Co.'s Marcus Hook (Pa.) refinery. He was formerly operating superintendent of the refinery. Thompson succeeds **John C. Weber,** who is retiring after 32 years of service.

GEORGE F. KLEIN, JR., has been named vice-president in charge of engineering, and a member of the board of directors, of Catalytic Construction Co., Philadelphia. He was formerly chief engineer for Catalytic, which builds petroleum plants.

NELSON PUETT has been named chairman of the Federal Petroleum Board. He replaces **Leo Hart,** who resigned Feb. 1 because of ill health. As chairman of FPB, Puett will head the federal group which administers the Connally "hot oil" act.

C. D. GOULD, British American Oil Co., Ltd., is the newly elected 1956 president of the Saskatchewan Geological Society. Other officers are: **A. L. Flood,** L-M Oil Co., Ltd., vice-president; **E. O'Bertos,** Canadian Superior Oil of California, Ltd., secretary-treasurer; **A. R. Torode,** Shell Oil Co., business manager; and **T. W. Blakesly,** Tide Water Associated Oil Co., program chairman.

CHARLES H. MANN has been elected treasurer, and **Karl Shaver** has been chosen assistant secretary of Columbia Gas System, Inc. Mann joined Columbia in 1929 as an auditor, and in 1945 was elected assistant treasurer of Columbia Service Corp. Shaver, with the company since 1943, was recently elected assistant secretary of the Service Corp.

A. W. BASS has been appointed manager of operations for Atlantic Refining Co. of Brazil, at Rio de Janeiro. He has been operations manager of the foreign marketing department at the company's headquarters in Philadelphia.

SAMUEL GREEN, vice-president of Brooklyn Union Gas Co., New York, has been appointed chairman of the general research planning committee of the American Gas Assn.

JOHN G. McLEAN has been appointed vice-president of Continental Oil Co. He will be in charge of coordinating and planning Conoco activities, and will make his headquarters in Houston.

HARVIN L. LANDUA has resigned as production, drilling, and financing assistant for Ralph Lowe, Inc., Midland, to become assistant manager of Chemical Corn Exchange Bank's oil and gas department in New York. He had worked for Humble Oil & Refining Co. for 12 years before joining Lowe in 1951.

EDWARD H. WHITLOCK, petroleum engineer for Sinclair Oil & Gas Co., has been transferred from Garber to Oklahoma City. **Rene E. Gracia,** geologist, has been transferred from Wichita, Kan., to Oklahoma City.

J. WARREN SMITH will be zone landman for Gulf Oil Corp.'s Rocky Mountain exploration zone. He will make his headquarters at Denver. **William J. Conroy** has been appointed to fill the position Gulf's Denver area landman.

RAYMOND ABNER will superintend drilling and production for Inglis Oil Properties Co., at Albion, Ill.

E. L. SPIELES, Ohio Oil Co., Casper, will serve as 1956 chairman of the American Institute of Mining, Metallurgical, & Petroleum Engineers—Wyoming Section. Other newly elected officers are: **J. C. McCarthy,** Stanolind Oil & Gas Co., Casper, first vice-chairman; **Thomas S. Bernatis,** Intermouth Chemical Co., Green River, second vice-chairman; and **John A. Fraher** U.S. Geological Survey, Casper, secretary-treasurer.

HOYT S. TAYLOR, secretary of Zapata Off-Shore Co., has been elected a director of the company.

S. E. CHARLTON has been promoted to assistant division manager of Esso Standard Oil Co.'s Pennsylvania division, at Philadelphia. **H. D. Monroe** succeeds Charlton as Esso's New Orleans division merchandising manager.

HERMAN L. BOYLE will manage the newly created organization department of Standard Oil Co. (Ind.). **J. Howell Turner** succeeds Boyle as director of industrial relations.

ADVERTISERS IN THIS ISSUE

This index is published as a convenience. Every care is taken to make it accurate, but PETROLEUM WEEK *assumes no responsibility for errors or omissions.*

Air Preheater Corp.	41
Baker-Raulang Co.	15
Cardwell Mfg. Company	21
Dowell, Inc.	4
Eastman Chem. Prods., Plastic Div.	17
First Nat'l Bank in Dallas	2nd cover
Houston Contracting Co.	25
Internat'l Business Machines	19
Linde Air Products Co., Div. Union Carbide & Carbon Co.	47
National Aluminate Corp.	7
Republic Nat'l Bank of Dallas	3
Richfield Oil Corporation	23
Rockwell-Nordstrom Valve Div.	28-29
Roebling's Sons Corp., John	2
Scientific Design Co., Inc.	4th cover
Sinclair Refining Co.	1
Standard Oil of Calif.	27
Standard Vacuum Oil Co.	33
Tretolite Company	3rd cover
Vector Mfg. Company	50
Williams Brothers	48
W-S Fittings Div., Porter Co., Inc., H. K.	8

PROFESSIONAL SERVICES 54

CLASSIFIED ADVERTISING
F. J. Eberle, Business Mgr.

BUSINESS OPPORTUNITIES 54
EMPLOYMENT OPPORTUNITIES 54
EQUIPMENT 54
(Used or Surplus New)

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In Heaven's Name, Why?

PRESIDENT EISENHOWER'S veto of the natural gas bill is a puzzling and an amazing thing.

In the veto message itself, Mr. Eisenhower agrees with the basic objectives of the Harris-Fulbright bill. He makes it clear he feels that the existing law discourages initiative and incentive to explore for and develop new sources of supply. In the long run, he says, this will limit supplies of gas, which is contrary not only to the national interest but especially to the interest of consumers.

In the President's own words, therefore, his veto action was unfair to the industry, to the consuming public and to the nation as a whole. Why, then, did Eisenhower veto the bill?

HE SAYS HE DID IT because of evidence indicating that "a very small segment" of a "great and vital industry" had sought to further its own interests by "highly questionable activities."

There is no argument here against an all-out effort to uncover and to punish any illegal or unethical action on the part of the industry. If some elements have been out of line, they deserve harsh treatment. It is no defense to say that these elements have done nothing more than many other elements from many other segments of the nation have done before. A wrong isn't made a right simply because others have committed the same offense

But it does seem amazing that the President would punish the entire industry, and—by his own reasoning—take action to the detriment of the entire nation, just to punish the seeming "arrogance" of a few.

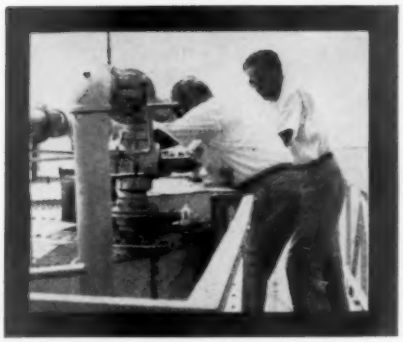
There seems to be no clear reason why the President could not have signed the Harris-Fulbright bill and still have pressed for an all-out investigation of the tactics used by those few. After all, the basic merits of the bill remain the same whether or not all of the tactics used to get is passed were proper.

It seems incredible that the President would veto the bill in a fit of pique, like a general who metes out punishment to all his troops because he saw someone out of step at the Saturday dress parade. Or, as one wiseacre put it, that he borrowed a page from Arthur Godfrey and "fired the oil and gas industry to teach it humility."

IF THERE IS any other logic behind the veto, it fails to show in the President's message.

Had the President vetoed the bill because he sincerely felt it would not be for the best interest of the nation, one could have disagreed with him but would still have respected his right to do as he sees fit.

But when he makes a strong case for the legislation, and then vetoes it, it leaves the industry in a state of bewilderment. What in heaven's name is it supposed to do?



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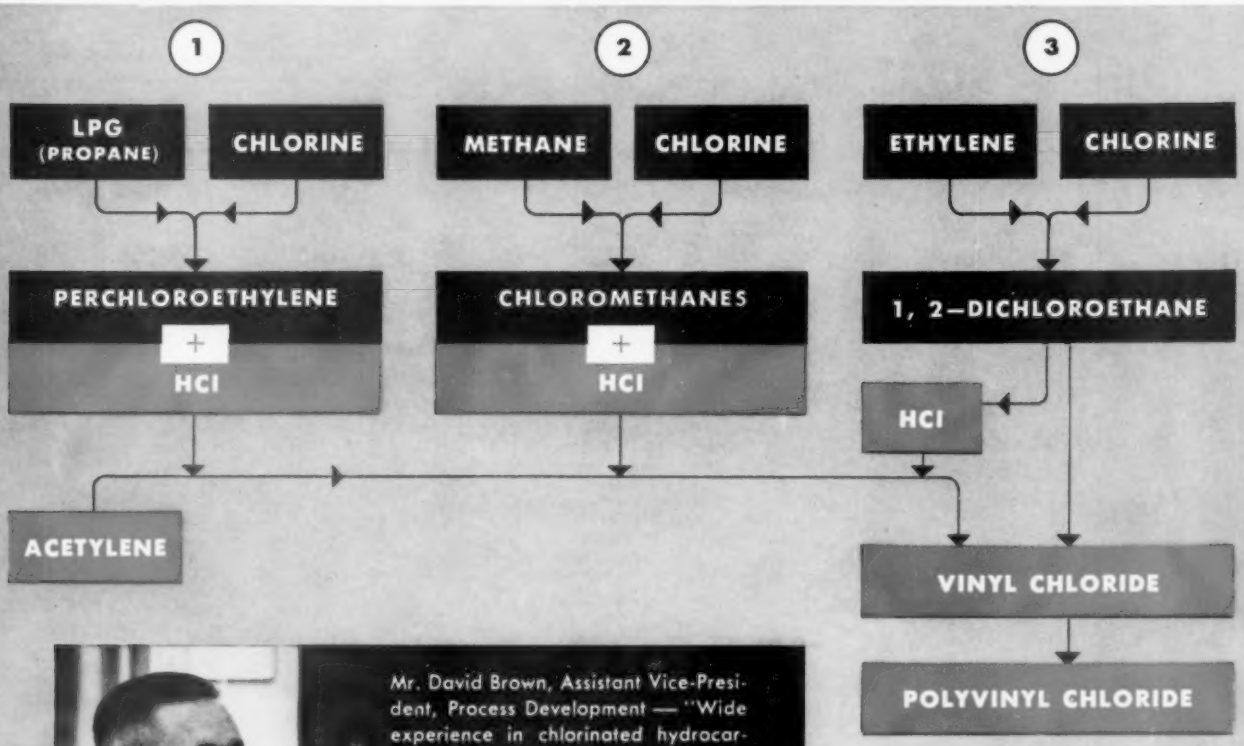
Chemicals and Services for the Petroleum Industry

Demulsifying • Desalting • Water De-Oiling • Corrosion Inhibiting
Paraffin Removal • Scale Prevention • Production Stimulation

NEW DEVELOPMENTS



Mr. David Brown, Assistant Vice-President, Process Development — "Wide experience in chlorinated hydrocarbon process development and commercial plant operation makes SD uniquely qualified to handle the unusually severe problems of corrosion and product purification inherent in these processes."

SD offers three profitable routes to PVC, starting with low-cost light hydrocarbons.

SD Process Integration is Key Factor

When anhydrous HCl is needed for chemical synthesis, it can be produced by burning hydrogen with chlorine, but it's expensive. The capital outlay for a burner installation plus the pure hydrogen feedstock can send the cost of HCl sky high.

When Pechiney, one of France's principal chemical manufacturers, decided to produce perchloroethylene as a valuable primary product, SD was called upon for process recommendations. SD provided the answer with a novel one-step LPG chlorination process which yields very pure anhydrous HCl as a by-product. This HCl will be used in expanded production of mono and polyvinyl chloride. (see method 1 above)

This process will provide Pechiney with perchloroethylene and high purity HCl at a much lower cost than the old four-step acetylene process. Capital investment is substantially less with this one-step process, and feedstock, labor and maintenance costs are also drastically cut.

For a large American chemical manufacturer, the answer to its captive needs and potential markets was a plant to produce chloromethanes (see method 2). This SD-designed plant, now in successful operation, is extremely flexible, producing methyl chloride, methylene chloride and chloroform in varying proportions as dictated by changing market conditions. Here again, the by-product HCl will be used in the synthesis of vinyl chloride monomer.

When ethylene is the available feedstock, SD offers still a third highly integrated route to vinyl chloride. Ethylene is chlorinated to form 1, 2-dichloroethane, which is pyrolytically cracked to yield vinyl chloride and HCl. The by-product HCl is then reacted with acetylene to produce more vinyl chloride.

These are examples of how SD cuts the costs and increases the profitability of new plant ventures by careful process integration and comprehensive evaluations of raw material sources and product markets. In new plant construction or the revamping of existing facilities to increase production efficiencies, SD's services are available on a confidential basis. Whether the project requires development of a new process, acquiring an existing process or engineering one of your own, you will profit by SD's specialized experience in organic chemical plant design.

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